

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2010 CURRENT EXPENSE BUDGET

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MASSACHUSETTS WATER RESOURCES AUTHORITY

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September 2009

Katherine Haynes Dunphy, Chairwoman
MWRA Advisory Board
11 Beacon Street
Boston, MA 02108

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for Fiscal Year 2010. The CEB was approved by the MWRA's Board of Directors at its June 24, 2009 meeting.

The rate revenue requirement for FY10 is \$561.4 million, an increase of 3.8% over FY09 budget. The budget includes \$350,000 for debt service assistance and the use of \$7.3 million of Rate Stabilization Reserve.

Total expenses of \$596.3 million, represent an increase of \$19.3 million or 3.3% over FY09 actual results. Approximately 58% or \$347.2 million of expenses is for debt service, and 42% is for direct and indirect operating expenses, which are level funded with FY09 actuals, with the exception of wages and salaries. A \$16.1 million increase in total debt service is the principle factor driving the overall budget increase. This increase reflects new money issued in FY09 and projected FY10 issues and higher variable rate assumptions for FY10 based on current market projections.

In May 2009, the Authority defeased \$20 million in bonds which resulted in savings of \$10.8 million in FY10 and \$9.6 million in FY11.

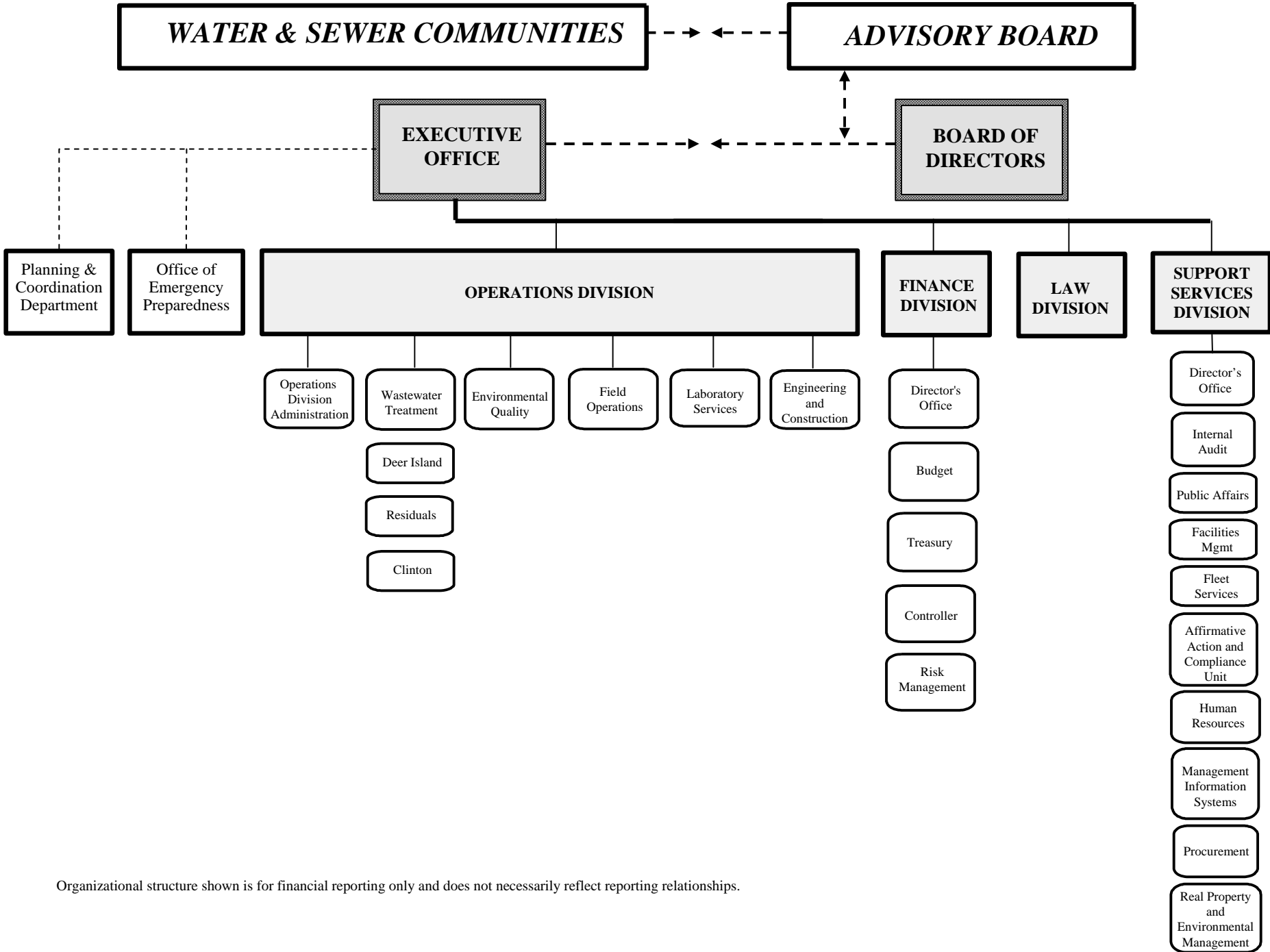
Revenue projections are lower in FY10 mainly due to lower variable rate projections on the Authority's investment income.

Additional budget information and a copy of this document are available online at www.mwra.com. Questions or comments on this document should be directed to the MWRA Budget Department.

Thank you for your continued support, comments, and recommendations to the Current Expense Budget.

Sincerely,

Frederick A. Laskey
Executive Director



Organizational structure shown is for financial reporting only and does not necessarily reflect reporting relationships.

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Executive Summary

Executive Summary

MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its member communities and funds its operations primarily through user assessments and charges. MWRA's mission is to provide reliable, cost-effective, high-quality water and sewer services that protect public health, promote environmental stewardship, maintain customer confidence, and support a prosperous economy. MWRA's long-term plan emphasizes improvements in service and systems and includes aggressive performance targets for operating the water and wastewater systems and maintaining new and existing facilities.

Parallel to MWRA's goal of carrying out its capital projects and operating programs is its goal of limiting rate increases by working in partnership with its member communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing MWRA. A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

During the year, MWRA measures actual performance on a monthly basis using various reporting tools. The monthly financial staff summary reports on actual spending versus the budget and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the year-end with a similar level of explanations. The performance indicator reports (quarterly in the Orange Notebook) capture a variety of parameters regarding performance of each major functional area.

Overview

Each year, MWRA prepares a budget that reflects the best available information for anticipated expenditures and revenues. MWRA transmitted its Final budget to the Advisory Board in February. The Advisory Board then has sixty days to review, comment, and provide recommendations. MWRA also hosts a public hearing to solicit comments on the budget and community assessments from citizens in its service area. In June, MWRA's Board of Directors holds hearings on the budget to review recommendations by the Advisory Board and new information available since the budget was developed. Staff incorporate Board decisions from the hearings and present a final budget for approval in June.

The Final FY10 Budget totals \$596.6 million before offsets of \$0.4 million in debt service assistance (DSA) for a net total expense of \$596.3 million. When excluding the Lehman Brothers Swap Termination Revenues and Expense of \$53.7 million, this budget is \$19.3 million or 3.3% above FY09 actual expenditures. It is important to note that in October 2008 the Governor exercised his Section 9C powers to address lower state revenues and eliminated the Authority's share of debt service assistance. To address the loss of \$11.25 million in Commonwealth support, the Authority amended its FY09 budget in January and avoided a mid-year rate increase by cutting direct expenses by \$6.3 million, indirects by \$1.5 million and debt service by \$3.5 million. While capital financing costs remain the largest component of the CEB, other escalating expenses such as higher chemical pricing, increased maintenance needs, higher other post employment benefits and healthcare costs continue to put pressure on the operating budget.

The Authority's operations are energy intensive and rising energy costs over the past few fiscal years have put extreme pressure on the operating budget. The recent retreat of energy pricing has produced some relief during FY09, and on projected energy and utility expenditures for FY10. Energy and utility expense account for 11.5% of direct operating costs in FY10, down from the 13.8% budgeted in the FY09 Original Budget. Utility expenses have decreased due to lower energy consumption in the current recession which has driven commodity pricing downwards. If oil and other energy prices continue to trade at current levels, the FY10 energy spending will be lower than the FY09 Original budget; however, a return to more volatile energy markets will have a significant impact on this budget. The Deer Island Treatment Plant (DITP), Carroll Water Treatment Plant (CWTP) and other large Field Operations (FOD) facilities purchase blocks of power in the variable rate market. Approximately 40% of the Authority's energy requirement is purchased in the variable rate market. Some of this market risk is mitigated by the Authority's power generating assets. Deer Island and the Carroll Plant have 52 MW and 8 MW of generating capacity, respectively. The FY10 budget assumes that Deer Island will self generate 25% of its electrical need and that the remainder will be purchased. Of the amount self generated, 69% will be generated from the steam turbine generator (STG) through the burning of digester gas in the boilers, 14% will be from the hydro-power facility, 12% will be from the combustion turbine generator (CTG), through a combination of exercise and load response, and 5%, an increase from FY09, will come from the new wind turbines and photovoltaic's.

Total expenses include \$347.2 million for capital financing costs, 58.2% of total costs before offsets, and \$249.4 million or 41.8% for operating expenses, of which \$209.6 million is for direct expenses and \$39.8 million is for indirect expenses. Total expenses increased by \$19.3 million over FY09 actuals, \$16.1 million of which comes from capital financing expense and the remaining \$3.3 million from higher operating expenses.

The \$16.1 million increase in capital financing expenses is the result of debt service associated with \$175 million issued in February 2009 and the projected issuance of \$100 million of revenue bonds in May 2010 as well as the new State Revolving Fund (SRF) debt of \$122 million issued in March 2009 and estimated issuance of \$60 million for November 2009. Finally, offsetting these new issuances, are the benefits of the February 2009 refunding and the impacts of the defeasances completed in 2007, 2008 and 2009. These defeasances have decreased the FY10 through FY12 debt service requirements. Combined debt service savings via defeasance are \$20.4 million in FY10, \$16.4 million in FY11, and \$45.2 million in FY12.

The \$3.3 million increase in operating expenses over FY09 actual spending includes \$3.9 million for direct expenses partially offset by a \$0.6 million decline in indirect expenses. The increase in direct expenses was primarily driven by contractual labor agreements while the decline in indirect expenses reflects the net impact of a \$2.4 million reduction in the operating reserve requirement offset, in part, by an increase in Watershed/PILOT payments of \$1.1 million, Other Postemployment Benefits of \$800,000, and Insurance of \$322,000. The FY10 direct expenses were level funded with the FY09 Amended budget.

The Final rate revenue requirement for FY10 is \$561.4 million, an increase of 3.8% over the FY09 rate revenue requirement. The Final FY10 non-rate revenue totals \$34.8 million, a decrease of \$4.4 million from FY09 actuals. The change resulted from a \$4.6 million decrease in projected investment earnings due to a projected 125 basis point drop in investment rate assumptions as the federal funds rate has been reduced to 0.0-0.25%. It is important to note that \$7.3 million in rate stabilization funds are projected to be used in FY10, \$2.2 million more than in FY09. The Final FY10 non-rate revenue budget includes \$15.2 million for investment income, \$7.9 million in other user charges, \$7.3 million in rate stabilization, and \$4.4 million in other revenue.

Table I-1 shows MWRA's Final FY10 Budget for revenue and expenses compared with FY09 and FY08 actual spending. Changes from FY09 to FY10 are described in the Revenue and Expense section of the Executive Summary.

Table I-1

**Final FY10 Current Expense Budget
Expenses and Revenues**

TOTAL MWRA	FY08 Actual	FY09 Actual*	FY10 Final	Change FY10 Final to FY09 Actuals	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 86,452,409	\$ 88,624,447	\$ 91,711,114	\$ 3,086,667	3.5%
OVERTIME	3,770,660	2,990,600	3,408,791	418,191	14.0%
FRINGE BENEFITS	15,594,183	16,579,652	16,578,832	(820)	0.0%
WORKERS' COMPENSATION	1,159,464	1,841,638	1,325,000	(516,638)	-28.1%
CHEMICALS	8,642,802	9,867,555	10,363,436	495,881	5.0%
ENERGY AND UTILITIES	25,975,019	24,428,446	24,072,215	(356,231)	-1.5%
MAINTENANCE	26,408,816	27,443,721	28,259,673	815,952	3.0%
TRAINING AND MEETINGS	225,995	157,515	164,003	6,488	4.1%
PROFESSIONAL SERVICES	6,670,261	6,357,126	5,903,213	(453,913)	-7.1%
OTHER MATERIALS	5,427,462	4,630,791	4,603,647	(27,144)	-0.6%
OTHER SERVICES	22,092,301	22,819,397	23,222,760	403,363	1.8%
TOTAL DIRECT EXPENSES	\$ 202,419,372	\$ 205,740,888	\$ 209,612,685	\$ 3,871,797	1.9%
INSURANCE	\$ 2,191,342	\$ 1,994,022	\$ 2,316,000	\$ 321,978	16.1%
WATERSHED/PILOT	23,216,874	22,439,393	23,549,673	1,110,280	4.9%
HEEC PAYMENT	4,132,778	4,142,047	3,877,500	(264,547)	-6.4%
MITIGATION	1,409,987	1,416,686	1,481,367	64,681	4.6%
ADDITIONS TO RESERVES	471,506	1,743,337	(653,254)	(2,396,591)	-137.5%
RETIREMENT FUND	4,258,645	8,630,339	8,392,132	(238,207)	-2.8%
POSTEMPLOYMENT BENEFITS	7,098,896	-	800,000	800,000	
TOTAL INDIRECT EXPENSES	\$ 42,780,028	\$ 40,365,824	\$ 39,763,418	\$ (602,406)	-1.5%
DEBT SERVICE (before offsets)	\$ 329,430,228	\$ 342,130,723	\$ 347,226,225	\$ 5,095,502	1.5%
VARIABLE RATE DEBT	6,522,527	-	-	-	
VARIABLE RATE DEBT/OTHER	-	(11,309,667)	-	11,309,667	-100.0%
BOND REDEMPTION	-	-	-	-	
DEBT SERVICE ASSISTANCE	(16,980,026)	-	(350,000)	(350,000)	
TOTAL DEBT SERVICE	\$ 318,972,729	\$ 330,821,056	\$ 346,876,225	\$ 16,055,169	4.9%
TOTAL EXPENSES*	\$ 564,172,129	\$ 576,927,768	\$ 596,252,328	\$ 19,324,560	3.3%
REVENUE & INCOME					
RATE REVENUE	\$ 517,797,832	\$ 540,819,000	\$ 561,431,000	\$ 20,612,000	3.8%
OTHER USER CHARGES	14,796,257	7,163,518	7,939,759	776,241	10.8%
OTHER REVENUE	7,815,283	7,210,575	4,371,736	(2,838,839)	-39.4%
RATE STABILIZATION	-	5,073,365	7,312,438	2,239,073	44.1%
INVESTMENT INCOME	33,516,949	19,769,035	15,197,396	(4,571,639)	-23.1%
TOTAL REVENUE & INCOME*	\$ 573,926,321	\$ 580,035,493	\$ 596,252,328	\$ 16,216,835	2.8%

* The Lehman Brothers Swap Termination Revenues and Expenses of \$53,743,500 are excluded from this table for comparison purposes.

FY09 Accomplishments

- Treasury continued to manage through unprecedented events in the financial markets. The bankruptcy of Lehman Brothers and the exiting of UBS Securities from the municipal marketplace required the development of new business partnerships to replace Lehman and UBS. With these new banking relationships, Treasury has increased MWRA's diversity and reduced the business risk exposure to any one bank.
- Finance Division secured a credit rating upgrade from Standard and Poor's from AA to AA+ during a chaotic credit market. Ratings from Moody's Investor Service and Fitch Ratings were affirmed at Aa2 and AA respectively. Higher credit ratings are associated with lower risk by investors. The lower risk is typically reflected in lower interest rates for borrowers like MWRA.
- Provided more timely financial information to the Board of Directors and external constituencies on both the Current Expense Budget and Capital Improvement Program.
- Developed an Amended FY09 CEB which identified savings to offset the loss of Debt Service Assistance without a mid-year rate increase to communities.
- Deer Island continued to leverage its self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.4 million in FY09. Deer Island also self-generated 23% of the plant's total required power during this time period.
- Competitively bid CY08 Renewable Portfolio Standard certificates generating revenue of \$710,000 in FY09.
- Competitively bid 2-year purchase agreement for Deer Island's electricity, locking in a 10 MW block of power at favorable pricing.
- Completed phase II of Deer Island's lighting equipment and controls retrofit project. Completion of the first two phases of this project will save approximately \$250,000 per year due to reduced power usage.
- Completed implementation of Phase I energy audit recommendations at MWRA's Chelsea office building. Work involved installing energy-efficient lighting which is expected to save \$30,000 annually in energy costs.
- Awarded the following major contracts in FY09: design and installation of two wind turbines at Deer Island; sale of DITP Enterprise Engines; fast-track contract for the removal of PCBs at Wachusett Dam; and Water Transmission Redundancy Plan.
- Advertised or received bids/proposals for the following: WASM 3 Connecting Mains, Sections 18, 50 & 51; Hultman Interconnections – CP6A; Northern Intermediate High Short-term Improvements Design; Dam Safety Modifications and Repair Design; and JCWTP UV Equipment Pre-selection.

- Worked with the Recycling Committee in which the Purchasing staff sought out environmentally friendly products, most notably recycled toners, 30% recycled copy paper and hybrid vehicles. Recycled 60.15 tons of paper, 148.21 tons of scrap metal and 5,215 gallons of waste oil, generating \$24,500 in revenues.
- Continued implementation of process modifications to address previous water quality issues and/or to save energy (approximately -\$200,000 per year) at the Carroll Water Treatment Plant (CWTP).
- At DITP, treated 96% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations through FY09.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance. Table I-2 shows MWRA's sources and uses of funds for the Final FY10 Budget.

Table I-2

REVENUE

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$7.9	1.3%
Other Revenue	4.4	0.7%
Investment Income	15.2	2.5%
Rate Revenue	561.4	94.2%
Rate Stabilization	7.3	1.2%
TOTAL REVENUE	\$596.3	100.0%
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$596.6	
Less:		
Debt Service Assistance	(0.4)	
Bond Redemption	0.0	
Sub-Total Net Expenses	596.3	
Capital Financing	347.2	58.2%
Direct Expenses	209.6	35.1%
Indirect Expenses	39.8	6.7%
TOTAL EXPENSES	\$596.6	100.0%
TOTAL EXPENSES Less Offsets	\$596.3	

*May not add up due to rounding

MWRA is required by its enabling act to balance its budget each year by establishing user assessments for water and sewer services that provide funds sufficient to recover the cost of operations (excluding depreciation), maintenance and improvements, and debt service, as well as meeting required reserves levels.

In the Final FY10 Budget, 94.2% of revenue is derived from rate revenue. The remaining 5.8% of revenue will come from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department (TRAC), penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the Final FY10 Budget, MWRA will raise \$561.4 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$561.4 million, \$382.3 million will fund the sewerage system, an increase of 6.0% as compared to FY09; and \$179.1 million will fund the water system, a decrease of 0.6% as compared to FY09.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the Final FY10 Budget totals \$7.9 million and is composed of \$1.2 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation at Deer Island, \$4.1 million paid by the Chicopee Valley Aqueduct communities, \$1.4 million in water revenue and \$0.4 million in sewer revenue to contract communities and others, and \$0.8 million in entrance fees paid by Stoughton, Dedham-Westwood Water District, and Wilmington.

Other Revenue

Other Revenue is budgeted at \$4.4 million, a decrease of \$2.8 million from FY09 actuals, reflecting the loss of \$0.9 million in subsidy funding from the Commonwealth for wastewater chemicals in FY10 and lower miscellaneous revenue projections for FY10. Other Revenue also includes permit fees, penalties, hydro-power revenues, other miscellaneous revenues, and revenue from energy programs.

Permit Fees and Penalties

The Final FY10 Budget includes \$2.0 million in fees charged to industries that discharge toxic materials into the MWRA sewer system. These permit fees partially offset the annual costs of permitting, inspecting, and monitoring these industries.

Miscellaneous Revenue

The Final FY10 Budget includes \$2.4 million in miscellaneous revenues of which \$1.4 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard Credits and participation in the demand response program; \$198,000 is for hydro-power generation at the MWRA's Cosgrove Intake facility, and \$755,000 in other revenue.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The Final FY10 Budget includes \$15.2 million in investment income, a decrease of \$4.6 million from the FY09 actuals. The Final FY10 short-term interest rate is at 0.75%, 125 basis points less than the FY09 budget assumption. While this is a significant reduction from FY09, this rate assumption is 50-75 basis points higher than the current federal fund rate.

Non-Recurring Revenue

Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA may transfer the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the rate revenue requirement in any subsequent year. Consistent with the requirements of its enabling act and its general bond resolution, MWRA treats transfers from the rate stabilization reserve as revenue in that fiscal year.

Direct Program Expenses

The Final FY10 direct program expense budget is \$209.6 million, an increase of \$3.9 million or 1.9% over FY09 actuals. Contractual wage increases are the principal drivers, accounting for \$3.1 million of the increase. To address rising direct costs, the MWRA has actively moved to consolidate operation and maintenance facilities, reorganized and automated facilities, reduced leased space, sold surplus assets, negotiated competitive purchase agreements for energy and chemicals, and increased self-generation and utilization of digester gas for energy production.

Line Item Budget Summary

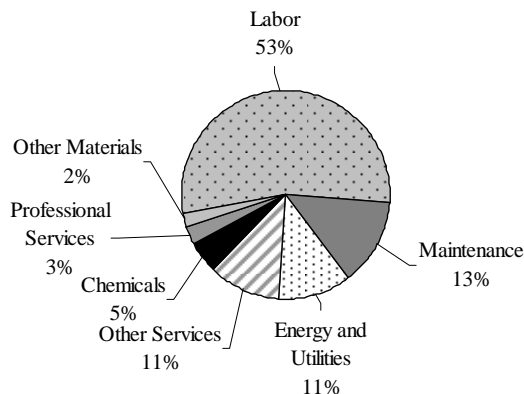
Figure I-1 combines related direct expense line items into general cost categories and shows that labor costs (wages and salaries, overtime, fringe benefits, workers' compensation and training and meetings) are the largest component of the direct expense budget (53%), followed then by maintenance (13%), energy and utilities (11%), and other services (11%).

Within the labor cost category, wages and salaries account for \$91.7 million, 3.5% higher than FY09 actual spending. Of the \$91.7 million, \$90.4 million is for regular pay. The Final budget assumes a year-end staffing level of 1,216 for Fiscal Year 2010, 24 fewer positions than FY09 Amended budget. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management.

Filled positions at MWRA have declined by 559 positions since the peak of 1,775 in March 1997 to the targeted year-end staffing level of 1,216 for FY10.

The Final Budget for utility expenses is \$24.1 million, a \$0.4 million, or 1.5%, decrease compared with FY09 actuals. The decrease reflects lower energy pricing due in part to lower energy demand in the weak economy which is projected to continue into FY10. Budgeted kWh pricing has dropped from \$0.1265/kwh in FY09 to \$0.1098/kwh in FY10. Actual electricity pricing in FY09 was \$0.10/kwh. Additionally, the Authority took advantage of favorable diesel prices and topped off all storage tanks before the end of FY09. The Final FY10 energy and utilities budget reflects the pricing outlook based on energy futures and on the power purchase contracts for Deer Island, the Carroll Water Treatment Plant, and other large FOD facilities. In May 2009, the Authority entered into a 2-year power purchase agreement for Deer Island whereby they purchased a fixed 10 MW block of power and will purchase the remaining plant energy demand in the real-time market. With the addition of this new contract, the

FIGURE I-1
Direct Expenses by Category - \$209.6 Million



MWRA has fixed pricing for approximately 60% of its electric load with the remaining electricity demand being purchased in the real-time market.

As the Authority's major capital initiatives wind down, maintenance expenditures to preserve these operating assets and maintain its infrastructure will continue to grow. The FY10 maintenance budget is \$28.3 million, an increase of \$0.8 million or 3.0%, compared to the FY09 actuals.

The Deer Island FY10 maintenance budget is \$13.9 million. An increase of \$1.0 million or 8.0% compared with the FY09 actual, and the Field Operations budget for FY10 is \$8.9 million, an increase of \$0.5 million or 6.5%, compared with FY09 budget. The Final FY10 funding also covers maintenance for computer systems, software licenses, security system maintenance, and fleet services.

The Final FY10 Budget for other services is \$23.2 million. Major components of this cost category include \$15.3 million for MWRA's residuals processing contract, \$3.1 million for lease payments, (consisting of \$1.6 million for the Charlestown Navy Yard and \$1.4 million for the Chelsea facility), \$1.4 million for telephones, and \$1.0 million for grit and screenings.

The Final Budget includes \$10.4 million for chemicals, an increase of \$0.5 million or 5.0% from the FY09 actuals. The majority of the variance is the result of price increases. Budget increases of \$230,000, \$227,000, and \$138,000 reflect higher prices for sodium hypochlorite, soda ash, and hydrofluosilicic acid respectively. The Authority does not assume any new changes in FY10 regulatory requirements for enterococcus compliance at Deer Island which, if implemented, could result in usage increases for sodium bisulfite and sodium hypochlorite.

Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-2 presents direct expenses by MWRA functional area and shows that 46% of the Final FY10 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

FIGURE I-2
Direct Expenses by Functional Area - \$209.6 Million

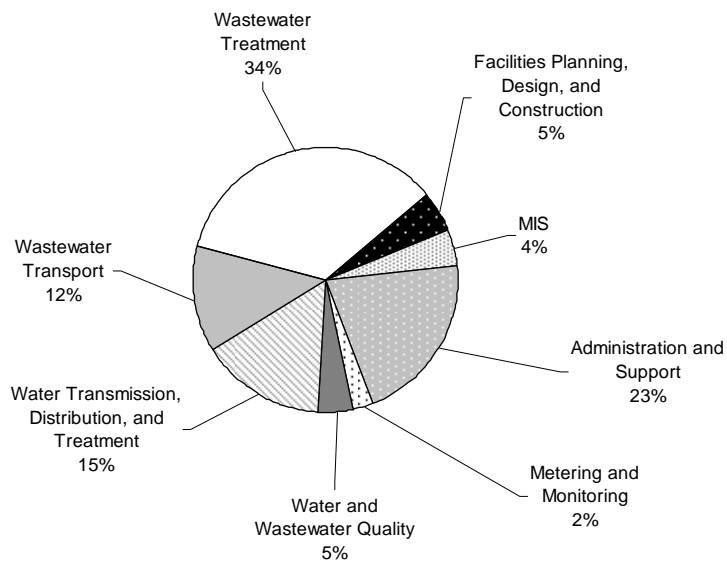
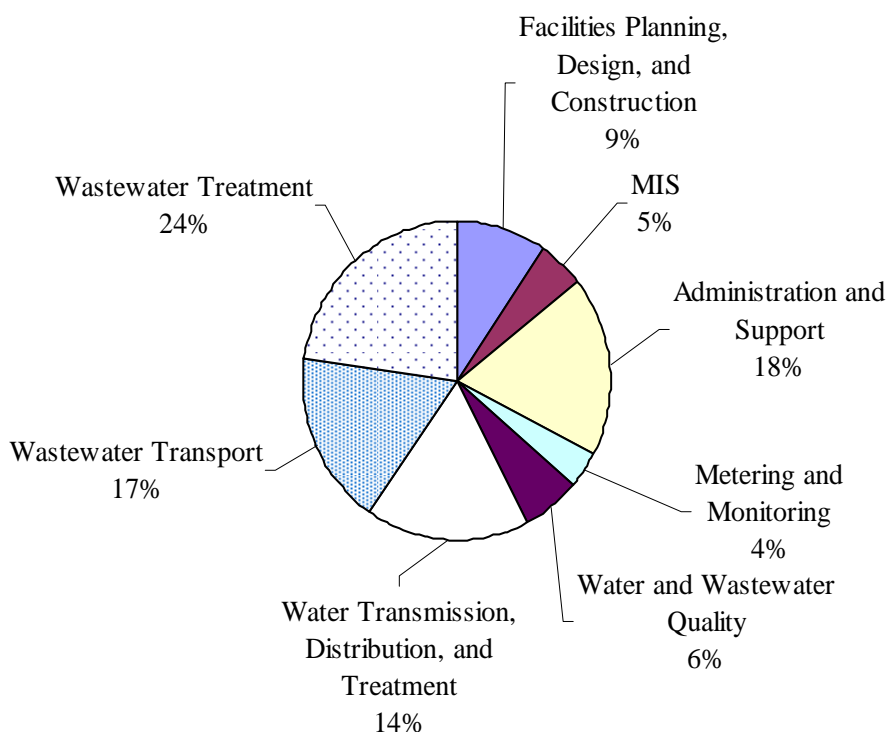


Figure I-3 illustrates staffing by Functional Area and shows that there were 1,230 filled positions in June. Of the 1,230 positions, 67% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions and Meter and Monitoring account for 10% of staff.

FIGURE I-3
Staffing by Functional Area



Capital Financing

Outstanding Debt and Debt Management

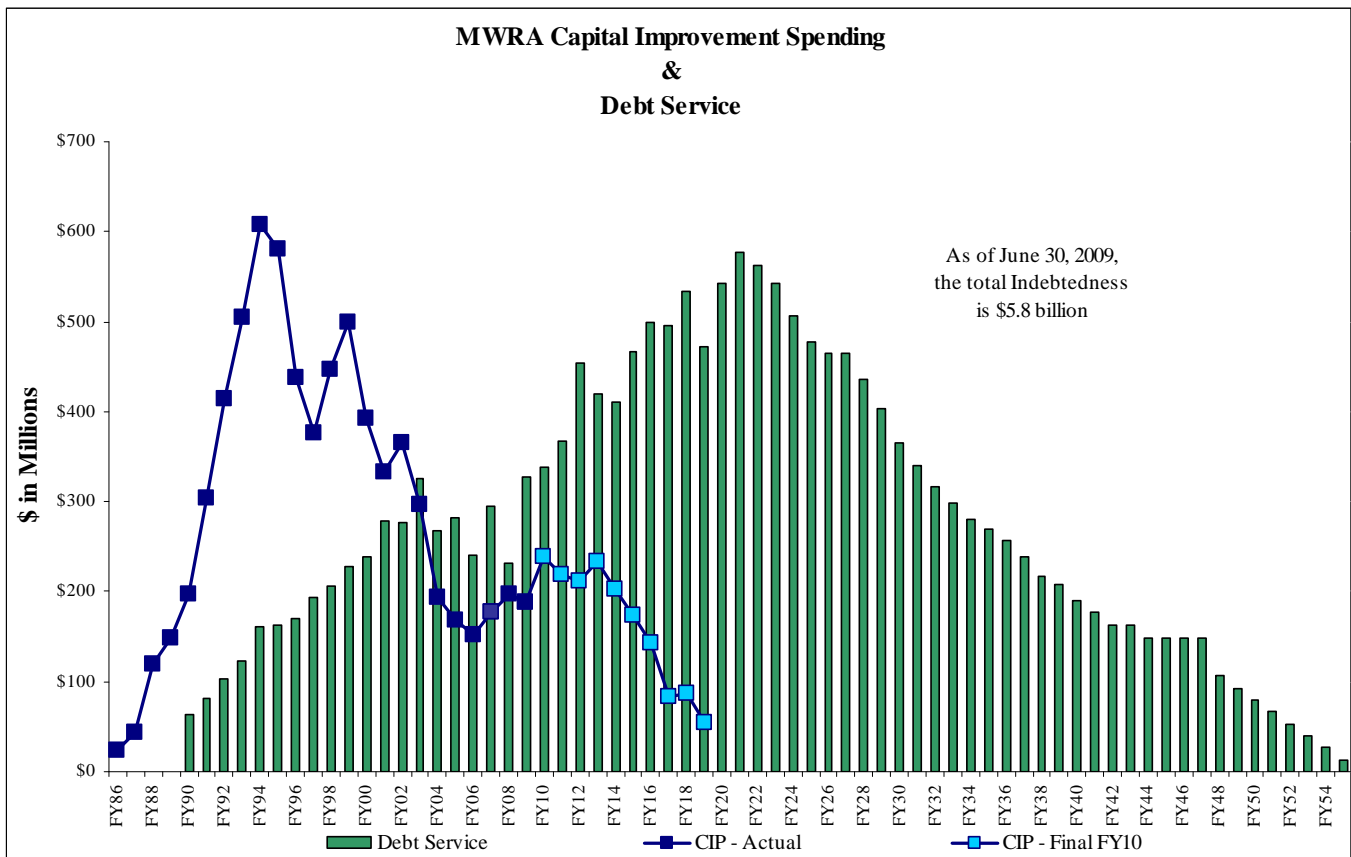
The \$7.1 billion spent on MWRA’s modernization efforts to date, has relied heavily on debt financing. Total debt as of June 2009 was \$5.8 billion consisting of senior and subordinated debt, as well as Tax-Exempt Commercial Paper. The Authority is significantly leveraged with long-term debt representing 70.5% of total assets, but the stability and predictability of operating cash flows can support a leveraged

capital structure. The MWRA enjoys strong unenhanced senior debt ratings of Aa2, AA+, and AA from Moody's, S&P, and Fitch, respectively.

The Authority's debt service obligation as a percent of total expenses has increased from 36% in 1990 to 58% in the Final FY10 Current Expense Budget. Much of this debt service is for completed projects. MWRA's capital spending, from its inception, has been dominated by court-mandated projects, which in total have accounted for 80% of capital spending to date.

The MWRA expects to finance the capital expenditures identified in the MWRA CIP through the issuance of revenue bonds as provided for in the Enabling Act, and from the proceeds of federal and state grants and operating revenues. As of June 30, 2009, the MWRA's indebtedness included \$3.2 billion of senior revenue bonds, approximately \$1.4 billion of subordinated revenue bonds, approximately \$1.1 billion of loans with the SRF and \$194 million of tax-exempt commercial paper notes.

The following graph illustrates the relationship between the MWRA's Capital Improvement Program and outstanding debt as of June 2009.



The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include maximizing use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, current and advanced refunding of outstanding debt, the use of surplus revenues to defease debt, and swap agreements. The MWRA also uses Tax Exempt Commercial Paper to minimize the financing cost of construction in process.

On June 4, 2009, the Authority defeased \$20 million in future debt service. The defeasance of these bonds decreased the FY10 and FY11 debt service requirements. The savings for FY10 and FY11 are

approximately \$10.8 million and \$9.6 million, respectively. This defeasance was accomplished using funds from the FY09 surplus.

The Final Fiscal Year 2010 capital financing costs total \$347.2 million. Debt service remains the largest portion of the MWRA's operating expenses, accounting for over 58% of total expenses.

For FY10, the budget assumes a 3.5% interest rate for variable rate debt compared to 4.0% in FY09. If interest rates increase to levels higher than anticipated, offsetting adjustments will have to be achieved elsewhere in the budget. If interest rates during the year are lower, the savings will be used to reduce the Rate Revenue Requirement in future years. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement and Letter of Credit providers, and remarketing fees. While variable interest rates are currently very low, the fee portion of this equation has grown as a result of dramatic changes in market conditions and escalating costs for liquidity. The compilation of these costs, which can range as high as 105 basis points above the base interest rate, must be considered in developing MWRA's variable rate debt service assumption. The Securities Industry and Financial Markets Association (SIFMA) 10-year and 20-year averages are approximately 2.52% and 3.12% respectively and are exclusive of the additional costs associated with fees. In addition, MWRA's average annual rates, including all costs, was 4.2% in FY08 and 1.86% for FY09. The 3.5% interest rate assumption is based on the current Fed Rate, plus associated fees which continue to climb beyond FY09 levels, and assumes that market conditions will likely return to more traditional interest rates.

Table I-3 provides detail on the Final FY10 capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Nearly 70% percent of the Final FY10 capital financing is for wastewater improvements. Current and future borrowing increasingly supports improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

TABLE I-3
Final FY10 Current Expense Budget - Capital Financing Detail (as of 6/30/09)
\$ in Millions

	Amount Outstanding	Total	Sewer	Water
Total SRF ¹ Debt	\$1,088	\$60.6	\$48.8	\$11.7
Total Senior Debt	3,206	179.5	105.0	74.5
Total Subordinate Debt	1,357	93.9	78.6	15.3
Total SRF and Debt Service²	\$5,651	\$333.9	\$232.4	\$101.5
Water Pipeline Commercial Paper	194	4.5	0.0	4.5
MassDevelopment CREBs Loan	0	0.0	0.0	0.0
Current Revenue/Capital ³		5.6	4.2	1.4
Capital Lease ⁴		3.2	2.1	1.1
Sub-Total	\$194	\$13.3	\$6.3	\$7.0
Total Capital Financing (before Debt Service Offsets)	\$5,845	\$347.2	\$238.7	\$108.5
Debt Service Offsets:				
Variable Rate Savings		0.0	0.0	0.0
Debt Service Assistance		(0.4)	(0.3)	(0.0)
Total Capital Financing	\$5,845	\$346.9	\$238.4	\$108.5

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects. The amount is partly determined by MWRA's bond covenant requirements.

⁴ Capital Lease funding for the Chelsea facility.

The Final FY10 capital financing costs before offsets increased by \$16.4 million or 5.0% compared to FY09 actuals. This increase in MWRA's debt service requirement is the result of the new money issued in FY09 and projected FY10 issues. The FY10 capital financing budget includes:

- \$179.5 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$1.7 million to support the issuance of \$100 million in May 2010.
- \$93.9 million in principal and interest payments on subordinate bonds.
- \$60.5 million in principal and interest payments on SRF loans. This amount includes \$2.3 million to support the issuance of \$60 million in November 2009.
- \$5.6 million to fund ongoing capital projects with current revenue and to meet coverage requirements.
- \$4.5 million to fund the interest expense related to the Local Water Pipeline Assistance Program.

- \$3.2 million for the Chelsea Lease.
- FY10 Capital Financing costs also reflect the lower debt service associated with the projected receipt of stimulus funding.

Indirect Expenses

The Final FY10 Budget includes \$39.8 million for indirect expenses, \$0.6 million below FY09 actual spending of \$40.4 million excluding the Lehman Brothers Swap Termination revenues and expenses of \$53.7 million. The decrease reflects the lower operating reserve contributions offset by increased Watershed, OPEB and Insurance expenses.

Insurance

MWRA purchases property and casualty insurance from external insurance carriers and self-insures for the first \$2.5 million of property and general liability loss per occurrence. The MWRA also purchases Worker's Compensation Excess insurance with a self-insured limit of \$0.5 million per claim. The Final FY10 Budget includes \$2.3 million for premiums, fees, and self-insured claims, \$0.3 million above the FY09 actual spending. The budget includes \$1.8 million for premiums and fees and \$0.5 million for the projected costs of claims made against the self-insured portion of MWRA coverage. MWRA mitigates the budgetary risk of self-insurance by maintaining an Insurance Reserve. The reserve, which was established as part of the Bond Resolution, requires that an independent insurance consultant review the funding level every three years and provide recommendations as to its adequacy. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside insurance consultant. No changes to the insurance reserve are planned for FY10.

Watershed Reimbursement/PILOT

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: payments in lieu of taxes (PILOT) for Commonwealth-owned land in the watersheds, operating expenses of the Division of Water Supply Protection, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The Final FY10 Budget includes \$6.5 million, \$12.1 million, and \$4.9 million respectively for these items. Collectively these represent an increase of \$1.1 million over FY09 actual spending. It is worthy of note that the MWRA also budgets capital funding for new purchases of Watershed Land in its CIP and covers those debt service costs within its own capital financing budget.

Harbor Electric Energy Company (HEEC)

Harbor Electric Energy Company (HEEC), a subsidiary of NStar, installed the cross harbor power cable and built the power substation to supply electric power for construction and operation of the Deer Island Treatment Plant. MWRA is repaying HEEC's capital investment on a 25-year schedule. The budget includes \$3.9 million for the estimated FY10 payment, comprised of \$3.3 million for capacity charges and \$0.6 million for maintenance expenses, representing a \$0.3 million or 6.4% decrease from the FY09 actual spending.

Mitigation

MWRA disburses mitigation funds to communities affected by MWRA projects or facilities pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include relieving the direct impacts of construction, meeting environmental and regulatory requirements, long-term operating agreements, or community compensation for impacts over and above those addressed by other mitigation. In rare situations, where the extent and duration of the impact of a project or facility on a community is such that restoring the area to its pre-project state is insufficient to relieve the stress of MWRA's presence during the project, MWRA funds or contributes to improvements to affected areas.

Mitigation expenses are funded in the capital budget and in the current expense budget. The Final FY10 Budget includes \$1.5 million for community compensation for impacts, including \$0.8 million for the City of Quincy and \$0.7 million for the Town of Winthrop, based on Memoranda of Agreement with the communities.

Retirement System Contribution

The Final FY10 Budget includes a contribution to MWRA's retirement fund of \$8.4 million, a decrease of \$0.2 million compared to FY09 actual spending. The FY10 funding of \$8.4 million includes the mandated contribution of \$5.6 million based on the latest actuarial report performed January 1, 2007 and an additional payment of \$2.8 million to assist in making up for FY08 losses. The January 1, 2007 actuarial valuation defines the mandated contribution for FY09 and FY10 and the next actuarial report, based on January 1, 2009, will impact FY11 and FY12. In FY08, the Retirement Board voted to adopt a new methodology of assessing retirement liability that would be in line with other 105 Chapter 32 retirement systems in the Commonwealth. Under this new methodology, MWRA Employees' Retirement System funding level decreased from a fully funded level to 85% funding, resulting in an unfunded liability and a 17-year amortization schedule to achieve 100% funding. The MWRA board has elected to retire this unfunded pension liability on an accelerated basis before fully funding its GASB 45 obligation. Continuing to pursue this course of action will shorten the unfunded pension amortization schedule. The future revenue freed by the lower required annual pension appropriation coupled with the prepayment funding levels already built into the rate base will enable the MWRA to redirect these available funds to the Other Postemployment Benefits (OPEB) liability (please refer to GASB 45 Other Postemployment Benefits Other than Pensions section below), once full funding of the pension liability is achieved.

During FY08, the Board of Directors voted to redirect \$6.6 million originally budgeted as Other Post Employment Benefit funding (\$7.7 million in funding less operating reserve requirement of \$1.1 million) to the Pension Fund in FY09. Further, one of two voluntary payments of \$3.3 million was made to the Pension Board during FY09. Given the current economic climate, staff recommended not making the second voluntary payment in FY09, but instead deposited in the rate stabilization reserve to be used for future year's rate relief.

GASB 45 – Accounting and Reporting by Employers for Postemployment Benefits Other than Pensions

The Authority adopted GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions* in FY08, recognizing that this obligation represents a large future liability for the health insurance costs of retirees. However during FY08, the Authority opted to delay the

establishment of an irrevocable trust for these benefits to allow time for a better definition of the program and then adopt the optimal funding mechanism.

In July 2008, the MWRA's Board of Directors voted that the \$7.7 million appropriated for OPEB for FY08 be applied to shorten the amortization schedule for the previously mentioned unfunded pension liability resulting from a revised assessment methodology. The use of these funds to pay down the unfunded pension liability maximizes potential financial returns without establishing an irrevocable trust and maximizes the Board's flexibility for future decisions regarding OPEB funding. No OPEB contribution was budgeted for FY09, however \$6.6 million originally planned for OPEB was redirected to the pension fund of which \$3.3 million was paid in August 2008. In FY10, the nominal amount of \$0.8 million is included in the budget for OPEB which represents savings associated with the new employer contribution healthcare funding formula adopted by the Commonwealth. The decision not to pre-fund its GASB obligation in years FY08 through FY10 will result in a unfunded pension liability of over \$40 million by the end of fiscal 2010.

Operating Reserves

Reduced funding for the Operating Reserve for FY10 of \$653,000 is in compliance with the requirement of the MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on lower spending in applicable line items in the Final FY10 CEB, the required balance is \$37.6 million at the end of FY10 versus the \$38.3 million included in the FY09 Amended Budget.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Forty-nine local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty local bodies purchase both. Approximately 2.6 million people, or 43% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the Final FY10 Current Expense Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-16, lists MWRA communities, the services received, and the preliminary MWRA assessments for FY10.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-5 on page I-17 presents the calculation of MWRA's Final FY10 rate revenue requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the Final FY10 Budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment income and other revenues offset water and sewer expenses. The resulting net cost of water and sewer

services is the amount MWRA recovers through water and sewer assessments.

Wholesale Assessment Methodology

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow. Beginning in FY07, MWRA sewer assessments were allocated in part on flow data from the Authority's new wastewater metering system. MWRA began using flow data from the new metering system in April 2005.

Table I-4

Massachusetts Water Resources Authority
Final FY10 Water and Sewer Assessments

MWRA Fully Served Water and Sewer Customers	Final FY09 Water Assessment	Final FY10 Water Assessment	Percent Change from FY09	Final FY09 Sewer Assessment	Final FY10 Sewer Assessment	Percent Change from FY09	Final FY09 Combined Assessment	Final FY10 Combined Assessment	Percent Change from FY09
ARLINGTON	\$3,798,111	\$3,893,299	2.5%	\$6,367,419	\$6,732,264	5.7%	\$10,165,530	\$10,625,563	4.5%
BELMONT	2,232,215	2,094,622	-6.2%	3,912,441	4,161,876	6.4%	6,144,656	6,256,498	1.8%
BOSTON (BWSC)	65,521,627	66,256,569	1.1%	103,137,432	108,380,160	5.1%	168,659,059	174,636,729	3.5%
BROOKLINE	5,198,049	5,216,987	0.4%	10,299,870	10,824,841	5.1%	15,497,919	16,041,828	3.5%
CHELSEA	2,750,255	2,978,069	8.3%	4,928,138	5,739,883	16.5%	7,678,393	8,717,952	13.5%
EVERETT	4,187,928	4,552,198	8.7%	6,187,367	6,530,382	5.5%	10,375,295	11,082,580	6.8%
FRAMINGHAM	6,525,095	6,531,365	0.1%	8,846,214	9,517,520	7.6%	15,371,309	16,048,885	4.4%
LEXINGTON	4,565,881	4,482,551	-1.8%	5,855,209	6,245,946	6.7%	10,421,090	10,728,497	2.9%
MALDEN	5,465,015	5,658,857	3.5%	9,664,493	10,367,785	7.3%	15,129,508	16,026,642	5.9%
MEDFORD	4,737,121	4,761,277	0.5%	9,654,660	10,318,684	6.9%	14,391,781	15,079,961	4.8%
MELROSE	2,118,630	2,048,045	-3.3%	4,814,755	5,148,514	6.9%	6,933,385	7,196,559	3.8%
MILTON	2,428,933	2,122,571	-12.6%	4,353,853	4,520,576	3.8%	6,782,786	6,643,147	-2.1%
NEWTON	8,620,195	8,662,740	0.5%	16,260,200	17,548,082	7.9%	24,880,395	26,210,822	5.3%
NORWOOD	3,131,158	3,017,939	-3.6%	5,402,950	5,565,811	3.0%	8,534,108	8,583,750	0.6%
QUINCY	9,455,292	9,360,041	-1.0%	15,857,588	16,761,810	5.7%	25,312,880	26,121,851	3.2%
READING	1,636,165	1,737,501	6.2%	3,555,143	3,844,457	8.1%	5,191,308	5,581,958	7.5%
REVERE	3,890,130	4,039,752	3.8%	7,560,677	8,782,042	16.2%	11,450,807	12,821,794	12.0%
SOMERVILLE	5,860,187	5,899,612	0.5%	11,843,075	12,507,364	5.6%	17,703,262	18,396,976	3.9%
STONEHAM	2,783,131	2,673,786	-3.9%	3,729,778	3,963,348	6.3%	6,512,909	6,637,134	1.9%
WALTHAM	7,131,291	7,149,732	0.3%	10,890,696	11,731,972	7.7%	18,021,987	18,881,704	4.8%
WATERTOWN	2,683,187	2,807,488	4.6%	4,748,683	5,149,170	8.4%	7,431,870	7,956,658	7.1%
WINTHROP	1,225,716	1,247,329	1.8%	2,569,630	2,999,987	16.7%	3,795,346	4,247,316	11.9%
TOTAL	\$155,945,312	\$157,182,330	0.8%	\$260,440,271	\$277,342,474	6.5%	\$416,385,583	\$434,524,804	4.4%

MWRA Sewer and Partial Water Customers	Final FY09 Water Assessment	Final FY10 Water Assessment	Percent Change from FY09	Final FY09 Sewer Assessment	Final FY10 Sewer Assessment	Percent Change from FY09	Final FY09 Combined Assessment	Final FY10 Combined Assessment	Percent Change from FY09
CANTON	\$2,262,620	\$2,316,722	2.4%	\$3,242,180	\$3,256,556	0.4%	\$5,504,800	\$5,573,278	1.2%
NEEDHAM	1,061,719	427,332	-59.8%	4,893,374	5,028,493	2.8%	5,955,093	5,455,825	-8.4%
STOUGHTON	535,066	485,781	-9.2%	3,735,159	4,013,770	7.5%	4,270,225	4,499,551	5.4%
WAKEFIELD	1,443,087	1,408,297	-2.4%	4,688,936	4,942,223	5.4%	6,132,023	6,350,520	3.6%
WELLESLEY	853,387	831,203	-2.6%	4,568,401	4,743,999	3.8%	5,421,788	5,575,202	2.8%
WINCHESTER	895,066	812,945	-9.2%	3,132,581	3,366,865	7.5%	4,027,647	4,179,810	3.8%
WOBURN	2,960,077	2,670,355	-9.8%	9,578,547	9,931,347	3.7%	12,538,624	12,601,702	0.5%
TOTAL	\$10,011,022	\$8,952,635	-10.6%	\$33,839,178	\$35,283,253	4.3%	\$43,850,200	\$44,235,888	0.9%

MWRA Sewer-only Customers	Final FY09 Water Assessment	Final FY10 Water Assessment	Percent Change from FY09	Final FY09 Sewer Assessment	Final FY10 Sewer Assessment	Percent Change from FY09	Final FY09 Combined Assessment	Final FY10 Combined Assessment	Percent Change from FY09
ASHLAND				\$1,721,023	\$1,869,649	8.6%	\$1,721,023	\$1,869,649	8.6%
BEDFORD				2,779,636	2,929,353	5.4%	2,779,636	2,929,353	5.4%
BRAINTREE				6,744,131	6,880,530	2.0%	6,744,131	6,880,530	2.0%
BURLINGTON				4,055,100	4,366,388	7.7%	4,055,100	4,366,388	7.7%
CAMBRIDGE				19,830,036	21,019,359	6.0%	19,830,036	21,019,359	6.0%
DEDHAM				4,650,140	4,740,776	1.9%	4,650,140	4,740,776	1.9%
HINGHAM SEWER DISTRICT				1,323,016	1,368,516	3.4%	1,323,016	1,368,516	3.4%
HOLBROOK				1,219,867	1,325,371	8.6%	1,219,867	1,325,371	8.6%
NATICK				3,941,631	4,219,801	7.1%	3,941,631	4,219,801	7.1%
RANDOLPH				4,601,421	4,821,993	4.8%	4,601,421	4,821,993	4.8%
WALPOLE				2,914,620	3,104,740	6.5%	2,914,620	3,104,740	6.5%
WESTWOOD				1,964,562	2,072,034	5.5%	1,964,562	2,072,034	5.5%
WEYMOUTH				8,776,895	9,010,767	2.7%	8,776,895	9,010,767	2.7%
WILMINGTON				1,768,207	1,985,771	12.3%	1,768,207	1,985,771	12.3%
TOTAL				\$66,290,285	\$69,715,048	5.2%	\$66,290,285	\$69,715,048	5.2%

MWRA Water-only Customers	Final FY09 Water Assessment	Final FY10 Water Assessment	Percent Change from FY09	Final FY09 Sewer Assessment	Final FY10 Sewer Assessment	Percent Change from FY09	Final FY09 Combined Assessment	Final FY10 Combined Assessment	Percent Change from FY09
LYNNFIELD WATER DISTRICT	\$439,487	\$456,370	3.8%				\$439,487	\$456,370	3.8%
MARBLEHEAD	1,828,854	1,768,433	-3.3%				1,828,854	1,768,433	-3.3%
NAHANT	351,096	340,192	-3.1%				351,096	340,192	-3.1%
SAUGUS	2,851,597	2,700,713	-5.3%				2,851,597	2,700,713	-5.3%
SOUTHBOROUGH	751,303	666,245	-11.3%				751,303	666,245	-11.3%
SWAMPSCOTT	1,416,222	1,380,309	-2.5%				1,416,222	1,380,309	-2.5%
WESTON	1,646,079	1,438,311	-12.6%				1,646,079	1,438,311	-12.6%
TOTAL	\$9,284,638	\$8,750,573	-5.8%				\$9,284,638	\$8,750,573	-5.8%

MWRA Partial Water-only Customers	Final FY09 Water Assessment	Final FY10 Water Assessment	Percent Change from FY09	Final FY09 Sewer Assessment	Final FY10 Sewer Assessment	Percent Change from FY09	Final FY09 Combined Assessment	Final FY10 Combined Assessment	Percent Change from FY09
DEDHAM-WESTWOOD WATER DISTRICT	\$15,572	\$7,234	-53.5%				\$15,572	\$7,234	-53.5%
LYNN (LWSC)	220,195	159,682	-27.5%				220,195	159,682	-27.5%
MARLBOROUGH	3,392,651	2,901,191	-14.5%				3,392,651	2,901,191	-14.5%
NORTHBOROUGH	852,523	823,787	-3.4%				852,523	823,787	-3.4%
PEABODY	527,353	312,793	-40.7%				527,353	312,793	-40.7%
TOTAL	\$5,008,294	\$4,204,687	-16.0%				\$5,008,294	\$4,204,687	-16.0%

SYSTEMS TOTAL	\$180,249,266	\$179,090,225	-0.6%	\$360,569,734	\$382,340,775	6.0%	\$540,819,000	\$561,431,000	3.8%
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Retail Charges

As noted above, MWRA provides water and sewer services to communities on a wholesale basis. Each community then re-sells services on a retail basis. As a result, household water and sewer charges include each household's share of the community's MWRA water and sewer assessments, plus the community's own charges for the provision of local water and sewer services.

Each community independently establishes retail rates. When establishing local rates, community officials consider issues related to the pricing of services, level of cost recovery, and the local rate structure or methodology. Several factors contribute to a broad range of local rate structures in the MWRA service area:

- Differences in the extent to which water and sewer costs are supported through property taxes and other sources of revenue;
- Differences in the means by which communities finance investments in their own water and sewer systems;
- Differences in communities' retail rate methodologies.

Some communities have flat unit rates, while others have inclining block rates. Local rates may also provide for differentials among classes of users, such as higher rates for commercial or industrial users, abatements to low-income or elderly residents, and adjusted sewer rates for customers with second meters used for lawn irrigation.

Additional information on rate structure within the member communities is available on the MWRA Advisory Board website as part of its annual retail rate survey.

TABLE I-5
Calculation of the FY10 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$152,886	\$56,727	\$209,613
Allocated Indirect Expenses	\$12,514	\$27,249	\$39,763
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$232,051	\$101,508	\$333,559
Current Revenue for Capital	\$4,200	\$1,400	\$5,600
Other Capital Expenses	\$2,115	\$5,602	\$7,717
PLUS			
Non-Rate Revenue:			
Investment Income	-\$10,517	-\$4,680	-\$15,197
Fees and Other Revenue	-\$4,114	-\$8,198	-\$12,311
Rate Stabilization	-\$6,795	-\$517	-\$7,312
EQUALS			
Rate Revenue Requirement	\$382,341	\$179,090	\$561,431

Revenue and Expenditure Trends

Because MWRA is required by its enabling act to balance its budget and to establish annual assessments to cover all expenses, revenue must change in concert with the changes in expenses each year. The rate revenue requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY10, community assessments will represent 94.2% of total revenue.

MWRA also updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These estimates provide a context for budget discussions and allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget options.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY10 through FY19.

Rates & Budget Projections										
FY10 CEB	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total Rate Revenue (\$ in Mil)	\$ 561,431	\$ 597,396	\$ 635,675	\$ 676,268	\$ 713,699	\$ 746,261	\$ 779,262	\$ 836,606	\$ 806,401	\$ 869,268
Rate Revenue Change from Prior Year (\$000)	\$ 20,612	\$ 35,965	\$ 38,278	\$ 40,594	\$ 37,431	\$ 32,562	\$ 33,002	\$ 57,344	\$ (30,206)	\$ 62,867
Rate Revenue Increase	3.8%	6.4%	6.4%	6.4%	5.5%	4.6%	4.4%	7.4%	-3.6%	7.8%
Use of Reserves (\$ in Mil)	\$ 7,312	\$ 32,770	\$ 9,455	\$ 19,919	\$ 2,060	\$ -	\$ -	\$ -	\$ -	\$ -

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's tax-exempt commercial paper program, debt refinancing, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new water system improvements, for which there are fewer non-ratepayer sources of funding, and the impact of new financing will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. refunding for savings, extended maturities on future borrowings, variable rate debt, and increased use of tax-exempt commercial paper) to help cushion and smooth the growth in capital financing expenses. Despite these initiatives, the size of the capital program will unavoidably continue to drive increases in community assessments.

The second largest budget factor is projected growth of base operating costs. The estimated \$87.7 million increase in direct expenses from FY10 to FY19 is primarily the result of an assumed inflation rate of 4.0% annually. Also, over the next ten years, there will be increases in direct expenses as a result of capital improvement projects. The largest increases will be for the operation of new facilities such as the North Dorchester Bay CSO which will have incremental impacts beginning in FY12.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. The assumptions include:

- Debt Service Assistance projected to be level funded at \$350,000;
- Direct expense inflation rate of 4.0%;
- CIP inflation rate of 2.5%;
- Capital spending based on 85% of the CIP expenditure forecast with 10% (two-thirds of the 15% reduction) added back three years later;

- Long-term fixed rate debt issues with 40-year terms and 6% interest rates (30-year 5.5% in FY10);
- Variable rate interest projected at 3.5% in FY10 and 4.0% thereafter.

MWRA uses the planning estimates to present a picture of what future rate increases might be and to test the impact of changes to assumptions. The planning estimates are not predictions of rate increases; rather, they provide the context and framework for the policy decisions that actually shape future rate revenue requirements and increases.

The planning estimates generally use conservative assumptions to help communities plan for future payments to MWRA.

There are several areas where differences from planning estimate assumptions may alter projected increases:

- Changes in anticipated borrowing rates or expected investment income rates;
- The planning estimates do not factor in any positive year-end variances which may be used to defease debt or reserved to offset rate revenue requirements in future years;
- More opportunities for SRF borrowing than expected; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 6%;
- Debt refinancing opportunities;
- Capital spending;
- Growth in direct expenses, greater than current assumptions of 4.0% is an area of increased concern. Increases in chemicals, maintenance and health care are reflected in the Final FY10 Budget. Many of the savings in prior years through staffing reductions, optimization of operations, and scope revisions to professional services are already reflected in the budget. More importantly, going forward the MWRA is faced with a growing need to maintain its facilities and ensure that adequate funding is available.

Managing rate increases in the coming years may involve tradeoffs between smaller increases in the upcoming fiscal year and significantly larger increases in subsequent years.

Final FY10 Capital Improvement Program

Overview

MWRA was created by the Massachusetts legislature in 1985 and since that time has invested over \$7.1 billion to modernize and improve the wastewater and waterworks systems serving its member communities. Of the total expenditures to date, nearly three-fourths have supported improvements to the wastewater treatment, interceptor, pumping, and combined sewer overflow systems. The remaining fourth has supported waterworks treatment, transmission, distribution, and water supply protection improvements. The Final FY10 CIP budget totals \$5.0 billion, of which \$3.1 billion is projected to be expended through FY09 and a remaining balance of \$1.9 billion.

MWRA's sewage treatment system has undergone a nearly complete transformation under the federally mandated, \$3.8 billion Boston Harbor Project. Now complete, the project included: a new Deer Island Treatment Plant with primary and secondary treatment capabilities; a new 5-mile Inter-Island Tunnel that combined two separate sewer systems into one; a sludge-to-fertilizer facility; and a 9.5-mile Effluent Outfall Tunnel to discharge treated wastewater away from shallow Boston Harbor into deeper waters and the stronger currents of Massachusetts Bay.

MWRA's Integrated Water Supply Improvement program is a \$1.7 billion series of projects that consists of aggressive watershed protection, modernized water treatment facilities and distribution system improvements including construction of covered storage facilities and pipeline rehabilitation projects. This program is nearly complete and includes the \$428.1 million John J. Carroll Water Treatment Plant, a state-of-the-art ozonation facility with capacity to treat 405 million gallons per day (mgd) of drinking water, which was completed in 2005 pursuant to the Safe Drinking Water Act (SDWA). The plant treats water delivered from the Wachusett Reservoir with ozonation and chloramination. The program also includes the 17.6-mile MetroWest Supply Tunnel which was placed in service in November 2003. The new tunnel greatly enhances the security, capacity and reliability of MWRA's entire water transmission system. Prior to 2003, the MWRA relied on a single 1940s-era surface aqueduct, the Hultman Aqueduct, to serve all of metropolitan Boston. With its leaks and aging valves, the Hultman has been taken off-line for major repairs. Before the MetroWest Tunnel, failure of the Hultman could have caused nearly complete interruption of Boston's water supply. This would have been a disaster for the region's public health, safety and economy.

With the completion of the Deer Island facilities and the winding down of the Water Supply Improvement program, the MWRA now spends a proportionately large part of its CIP budget on the Combined Sewer Overflow ("CSO") projects mandated by state and federal agencies. The CSO program represents the largest program initiative in terms of spending with an FY10 budget of \$106.8 million and accounts for more than 29% of Authority spending over the FY09-13 period or \$324 million.

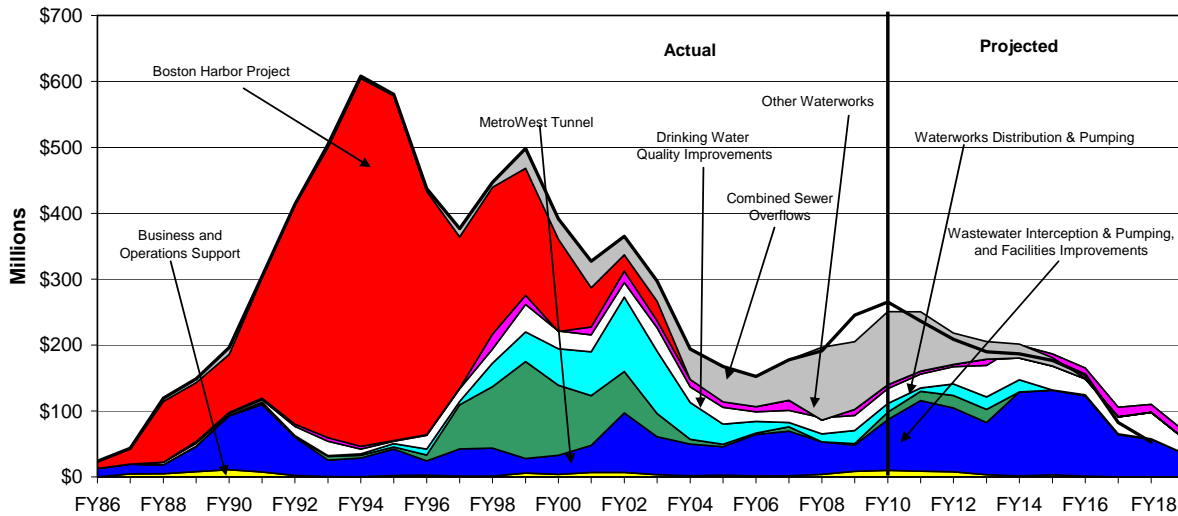
In 1987, MWRA entered a stipulation in the Federal District Court Order in the Boston Harbor Case by which it accepted responsibility for developing and implementing a long-term CSO control plan for all combined sewer overflows hydraulically connected to MWRA's system, including the outfalls owned and operated by the communities of Boston, Cambridge, Chelsea, Somerville, and a small section of Brookline. Since then, MWRA has conducted site-specific and watershed-based planning to meet short-term control requirements pursuant to federal regulations and develop a long-term control plan to bring the Boston area CSOs into compliance with the Federal Clean Water Act and State Water Quality Standards.

To arrive at the Final FY10 CIP, the Authority identified the needs of the programs taking into account the mandated project timeframes and the recommendations of the Master Plan. Since 1985, over 80% of the Authority’s spending has been on court-mandated projects. Going forward, the mandated projects account for 36% of projected FY09-13 spending, but that percentage increases to over 63% when expenditures for Deer Island Asset Protection, Interception & Pumping (I&P) Asset Protection, and non-mandated active projects are included in planned expenditures.

As the MWRA matures as an agency, a greater proportion of its capital budget is designated for Asset Protection and Maintenance initiatives, absent new regulatory mandates, to preserve these operating assets. This long-term strategy for capital work is identified in the Authority’s Master Plan.

The graph below highlights major capital improvement spending by program categories, both completed (actual) and remaining (projected).

MWRA CAPITAL PROGRAM FY1986-2019



**Final FY10
CAPITAL IMPROVEMENT PROGRAM
Actual and Projected Expenditures**

Expended To-Date	Projected Expenditures Beyond FY09
\$7.1 billion	\$1.9 billion

MWRA's Green Initiatives

Building upon its track record in sustainable resource use – most notably dramatic system-wide reductions in water demand, 100% beneficial reuse of sludge, self-generation of approximately 25% of Deer's Island power needs, and maximizing revenue through hydropower – MWRA continues to work aggressively to use its resources efficiently and reduce the environmental impacts of its daily operations. The MWRA is on track to meet the Governor's initiative that 30% of power demand be met by green sources. Key initiatives now underway or planned for FY10 include the following:

- Design/build RFP to upgrade Deer Island STG for an additional 5.4 MW of power from digester gas scheduled to go on-line March 2010.
- 100 kW solar panels at Deer Island began generating power in May FY08.
- Second battery of 180 kW solar panels at Deer Island expected to go on-line as well as 478 kW solar panels at the John J. Carroll Water Treatment Plant.
- Continued construction at Deer Island for 2 – 600 kW wind turbines with an estimated power production date of November 2009.
- Retrofit of diesel-powered vehicles and equipment and continued purchase of alternative fuel vehicles. Of the 378 vehicles in MWRA's fleet, 249 or 65.9%, are powered by alternative fuel.
- Initial responses to comprehensive energy audits at the John Carroll Water Treatment Plant, the Chelsea Facility, the DeLauri Pump Station, and Deer Island Treatment Plant facilities are already yielding energy savings.
- The MWRA is currently exploring wind energy initiatives at Nut Island, Carroll Water Treatment Plant and the Maintenance Facility in Southboro. Additionally, we are also pursuing new hydropower opportunities at Loring Road Covered Storage Facility and Wachusett Dam.

MWRA will continue to assign high priority in its capital and current expense budgets to projects which demonstrate its commitment to energy efficiency and environmental sustainability and will seek to maximize grant funding to improve the economic efficiency of green energy projects.

In preparation of potential funding from the federal stimulus package, the Authority submitted a list of clean energy initiative projects to the Commonwealth for its consideration. The energy related projects are itemized under the Business and Operations Support section of the FY10 CIP.

FINAL FY10 CIP

As shown in Table 6 below, the MWRA's total capital budget is \$5.0 billion with an estimated \$3.1 billion spent through FY09 and \$1.9 billion remaining to be expended. Wastewater System Improvements represent 57.9% or \$1.1 billion of remaining spending. Budgeted spending for FY10 is \$238.3 million.

Table 6

Program	Total Contract Amount	Projected Pmts Thr. FY08	Remaining Balance 6/30/08	FY09	FY10	FY11	FY12	FY13	FY09-13 Expenditures
Wastewater System Improvements	\$2,461,520	\$1,217,669	\$1,243,851	\$125,522	\$165,370	\$155,887	\$124,846	\$102,419	\$674,044
Interception & Pumping	712,499	488,167	224,332	8,054	4,103	24,417	16,836	26,295	79,705
Treatment	536,461	51,794	484,667	16,222	53,896	69,429	71,140	47,767	258,454
Residuals	211,681	63,811	147,870	51	717	1,246	2,522	1,333	5,869
CSO	878,004	522,216	355,788	98,328	106,761	60,223	34,270	24,388	323,970
Other	122,875	91,681	31,194	2,866	-109	572	78	2,636	6,043
Waterworks System Improvements	\$2,429,609	\$1,602,415	\$827,194	\$55,784	\$60,089	\$53,197	\$80,262	\$125,582	374,914
Drinking Water Quality Improvements	644,977	508,590	136,387	16,057	17,461	7,225	24,720	35,902	101,365
Transmission	1,003,936	672,884	331,051	10,786	20,220	22,640	27,713	33,791	115,150
Distribution And Pumping	749,935	305,452	444,483	19,615	16,636	18,734	24,299	46,595	125,879
Other	30,761	115,489	-84,727	9,326	5,772	4,598	3,530	9,294	32,520
Business & Operations Support	\$89,913	\$42,932	\$46,982	\$6,787	\$12,793	\$9,299	\$7,361	\$4,535	40,775
Total MWRA w/o Contingency	\$4,981,042	\$2,863,016	\$2,118,027	\$188,093	\$238,252	\$218,383	\$212,469	\$232,536	1,089,733

FY10 Capital Highlights

The Final FY10 CIP is \$1.09 billion for fiscal years 2009-2013, and net projected spending of \$1.03 billion for fiscal years 2014 and beyond which is primarily driven by spending on new projects from the Master Plan. The FY14-18 spending window is \$688.7 million, but this forecast will grow in future budget cycles as additional Master Plan projects are incorporated into the CIP. The Final FY10 CIP includes a total of 96 new projects/sub-phases from the Master Plan, 14 added in FY10, with the highest priority ratings totaling \$1.05 billion.

Highlights of Project Changes from the Final FY09 CIP to the Final FY10 CIP

The Final FY10 CIP represents updated spending and schedules for projects contained in the FY09 CIP and new spending on 26 new water and wastewater projects and subphases totaling nearly \$72 million. These additional projects and subphases represent those capital initiatives outside of the FY09 CIP that staff recommend as most essential to assure reliable service to MWRA’s customers.

The Final FY10 CIP increased \$113.4 million or 2.3% above the Final FY09 CIP approved by the Board in June 2008, however, spending on projects in the FY09-13 cap period increased by only \$8.3 million. The overall increase of \$113.4 million was driven by inflationary adjustments of \$12.4 million, addition of new projects of 74.0 million, and revised spending estimates for existing projects of \$27.0 million, the largest of which are for Deer Island Asset Protection of \$49.8 million, Inflow and Infiltration (I/I) Financial Assistance \$36.0 million, Interception and Pumping (I&P) Asset Protection \$17.3 million, MetroWest Tunnel/Hultman Rehabilitation \$13.7 million, and Southern Extra High Redundancy of \$13.7 million. These project increases were partially offset by reductions of \$35.3 million for Reserve Channel, West Roxbury Tunnel \$11.1 million, and North Dorchester Bay \$10.9 million due primarily to more favorable bids and revisions in project scope.

Table 7 describes the dollar and percent changes by major program between the Final FY09 and the Final FY10 CIP for the total project level and for the FY09-13 timeframe.

Table 7

	Final FY09	Final FY10	\$ Chge.	% Chge.	FY09-13 \$ Chge.	FY09-13 % Chge.
Wastewater System Improvements	\$2,409,392	\$2,461,520	\$52,128	2.2%	\$9,692	1.5%
Waterworks System Improvements	\$2,378,619	\$2,429,609	\$50,990	2.1%	-\$10,883	-2.8%
Business & Operations Support	\$79,657	\$89,913	\$10,256	12.9%	\$9,525	30.5%
Total MWRA w/o Contingency	\$4,867,668	\$4,981,042	\$113,374	2.3%	\$8,334	0.8%

Contingency

Contingency for each fiscal year is incorporated into the Capital Improvement Program to fund the uncertainties inherent in construction projects. MWRA uses a contingency budget to cover these costs in the event they exceed the Approved Budget. The contingency budget is calculated as a percentage of budgeted expenditures outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. The total contingency budget for the ten-year CIP (FY10-19) is \$110.8 million of which \$52.0 million is allocated to the FY09-13 timeframe. The Final FY10 contingency budget is \$2.6 million or 2.3% under the Final FY09 level.

	Total Budget	FY09	FY10	FY11	FY12	FY13	FY09-13	Beyond 13
Contingency	\$110.8	\$0.0	\$13.8	\$10.8	\$12.4	\$15.0	\$52.0	\$58.7

CIP Impact on the Current Expense Budget

In addition to the annual financing costs included in the Current Expense Budget, the Capital Improvement Program affects the annual operating budget when capital facilities come on-line and require adjustments to operating budgets. In prior years, completion of the Deer Island Treatment Plant, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. Improved systems will increase annual operating costs by over \$700,000 by FY19 with operating costs savings of \$1.5 million offset by higher operating cost for ultra violet water treatment at Carroll Water Treatment Plant and investment in new information technology. The largest increase over the next five year period results from the licensing fee for the ultra violet treatment at the Carroll Water Treatment Plant beginning in FY14 for \$1.2 million. Energy saving initiatives at Deer Island including upgrade of the digester gas fueled steam turbine generation (STG) system will reduce operating costs by nearly \$1.8 million by FY14. The following table summarizes projected CIP impact by project over the next 10 years.

Table 8

Fiscal Year	CEB Impacts (000)									
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	Total
DI Energy	(\$602)	(\$250)	(\$758)	(\$210)	\$0	\$0	\$0	\$0	\$0	(\$1,819)
FERS Biofilter	0	0	0	(125)	0	0	0	0	0	(125)
Clinton Wastewater Treatment Plant/Aeration Efficiency Improvement	0	(53)	0	0	0	0	0	0	0	(53)
North Dorchester Bay	0	450	0	0	0	0	0	0	0	450
Charles River CSO Controls	0	0	0	0	0	0	0	0	0	0
Total Wastewater (inflated)	(\$602)	\$147	(\$758)	(\$335)	\$0	\$0	\$0	\$0	\$0	(\$1,547)
Carroll Water Treatment Plant	0	0	0	1,150	0	0	0	0	0	1,150
Quabbin Water Treatment Plant	0	0	165	0	0	0	0	0	0	165
Wachusett Algae Treatment Facility	0	0	0	0	20	20	0	0	0	40
Water Storage Tanks	0	0	0	0	0	0	0	0	0	0
NIH Storage	0	0	0	0	0	0	0	0	0	0
Water Hydro Projects	0	0	0	0	0	0	0	0	0	0
Gillis Redundant Pump Station	0	0	0	0	0	0	0	0	0	0
Total Water (inflated)	\$0	\$0	\$165	\$1,150	\$20	\$20	\$0	\$0	\$0	\$1,355
Phase II: TRAC Replacement	150	0	0	0	0	0	0	0	0	150
Phase II: SAN & CPU's for TRAC and LIMS	90	0	0	0	0	0	0	0	0	90
Phase V: LIMS Replacement, GIS & OMS	138	0	0	187	0	0	0	0	0	325
Phase VI: Lawson, MS Licensing & Carroll Water Treatment Plant	62	0	0	0	0	0	0	0	0	62
SAN II	0	0	0	0	100	0	0	0	0	100
SAN III	0	0	0	0	0	0	0	0	100	100
NET 2020	0	0	0	50	0	0	0	0	0	50
Computer Center - OCC Infrastructure	0	0	0	0	0	0	0	0	0	0
Telecommunications	0	0	0	0	0	0	0	0	25	25
Laboratory Instrument Data Mgmt.	0	0	0	0	0	0	0	0	0	0
Corporate Server Infra & Doc. Distribution	0	0	0	0	0	0	0	0	0	0
Total Business and Operations Support (inflated)	\$440	\$0	\$0	\$237	\$100	\$0	\$0	\$0	\$125	\$902
TOTAL MWRA	(\$162)	\$147	(\$593)	\$1,051	\$120	\$20	\$0	\$0	\$125	\$709

Capital Financing and Grant Revenues

In the past, MWRA has been able to finance approximately 20 percent of its capital spending with grant receipts, totaling approximately \$1.1 billion through FY03. However since FY03, the MWRA has received only \$4.9 million in capital grants. In addition to participating in federal and state grant programs, the MWRA will also benefit from the American Recovery and Reinvestment Act of 2009 which is projected to forgive approximately \$31 million in State Revolving Fund loan principal. The Authority will continue to pursue grant funding and take advantage of any possible program available to maximize grant funding opportunities.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

MWRA Organization and History

The MWRA Enabling Act

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to MWRA.

History and Accomplishments

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long term CSO control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (DEP) mandating the steps necessary to achieve required improvements to the MWRA water system.

Since taking over operation and maintenance of the water and sewer systems from MDC, MWRA has increased annual investment in the system infrastructure from an average of \$11 million per year to an average of more than \$350 million per year between (FY90 to FY08). This investment has greatly improved the operating efficiency of the existing water and sewer systems, protecting fresh water sources and improving the water quality in Boston Harbor.

MWRA Rates Management

Between FY96 and FY02 the MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance (DSA) allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. The Authority cut \$420 million from its capital improvement program and \$47.2 million from the current expense budget through various budget cuts including layoffs. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of these two elements. In response to a strengthening local economy, debt service assistance was restored in FY05 at the level of \$8 million. In the following three years, the debt service allocation increased to \$9.6 million in FY06, \$19.0 million in FY07, and \$17.0 million in FY08. In light of the economic downturn in FY09, the Commonwealth was forced to eliminate the \$15.0 million appropriation in October 2008. The MWRA, after an aggressive budget cutting process, combined with favorable spending trends, was able to make-up this shortfall without a mid-year rate increase. The FY10 budget includes \$350,000 for debt service representing MWRA's estimated share of the proposed Bottle Bill put forth by the Governor.

Planning estimates for FY11 through 2019 forecast rate revenue requirement increases of 6.4% annually for the next three years, 5.5%, 4.6%, 4.4%, 7.4%, -3.6%, and 7.8% in years 2014, 2015, 2016, 2017, 2018, and 2019, respectively. With the prospect of higher rate increases in the future, the MWRA, the Advisory Board, and its member communities have aggressively pursued rate relief in the form of larger debt service assistance payments from the State Legislature and will continue this effort to secure future rate relief.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant.

MWRA must ensure that its operating and capital costs are kept to a minimum, and that every dollar adds to the value of water and sewer services. MWRA has taken several steps toward this end.

- MWRA continues to limit increases in ongoing operating costs. The Final FY10 direct expense budget is only \$31.2 million more than spending in FY00. This represents annual increases of 1.8%, well below inflation. When adjusted for inflation, direct expenses have actually declined by more than \$59 million since FY00. Costs to operate new facilities, higher utility costs, healthcare costs and increased maintenance have been offset by reductions in the workforce, controlling and optimizing chemical use, and other materials.
- MWRA seeks to maximize savings in the deregulated electricity market, and now competitively procures most of its power needs.
- MWRA is working to reduce labor costs wherever appropriate. The budget assumes an average staffing level of 1,223 for Fiscal Year 2010 with a projected year end staffing level of 1,216. This staffing level represents a decrease of more than 500 filled positions (over 31%) from peak staffing levels in 1997.

- MWRA uses a variety of financing tools including variable rate debt, tax-exempt commercial paper, interest rate swaps, refundings, and tender offers to take advantage of particular market conditions and appropriate maturity schedules to reduce annual debt service costs.
- MWRA continues to aggressively seek additional SRF assistance.
- Finally, MWRA uses rate stabilization funds and bond redemption funds in the context of its longer-term rate smoothing strategy.

In addition to carefully managing operating costs, MWRA will continue to explore additional financing strategies to manage assessment increases in a fiscally responsible manner.

MWRA Organization

MWRA has seven divisions. Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. MWRA's organizational structure is included in the document before the Table of Contents.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees.

The MWRA created the **Office of Emergency Preparedness** in November 2005 by consolidating its security and emergency response functions throughout the agency. The Department is responsible for oversight of the security and emergency response policies and procedures, implementation of the Emergency Response Plan, and training of the Site Characterization Team.

The **Planning and Coordination Department** provides decision support on planning, policy and operations matters. It provides regulatory, public policy and public health advocacy for MWRA's drinking water and wastewater programs and administers financial assistance programs to improve the infrastructure of member communities.

The **Operations Division** operates the water and wastewater treatment systems; the water transmission and distribution system; the wastewater collection, transport, and combined sewer overflow (CSO) systems; and the residuals processing facility. It also provides laboratory and engineering and construction services; enforces sewer use regulations and seeks to limit the discharges of toxic materials; manages environmental studies of Boston Harbor and Massachusetts Bay; and monitors water quality.

The **Finance Division** is responsible for budgeting, rate setting, accounting, grants management, risk management, treasury activities, securing financing to support the capital improvement program.

The **Law Division** provides legal counsel to all divisions on compliance with federal and state law, real estate matters, labor and employment law, litigation, and construction issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation.

The **Support Services Division** oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action,

procurement, materials warehousing, occupational health and safety, internal audit, fleet services, computer system development and management, library and records management, and mail and employee shuttle services.

Statement of Financial Position

In accordance with its enabling act, each year MWRA submits annual reports to the Governor, the President of the State Senate, the House of Representatives, the Advisory Board, and the Chairs of the State Senate and House Committees on Ways and Means containing financial statements relating to its operations maintained in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2008 and 2007 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Final FY10 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 376,563	\$ 388,759	\$ 395,729	\$ 407,086	\$ 11,357	2.9%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	129	985	0	1,110	1,110	-
PROFESSIONAL SERVICES	160,597	163,537	165,949	177,100	11,151	6.7%
OTHER MATERIALS	2,354	3,546	3,474	1,385	(2,089)	-60.1%
OTHER SERVICES	436,934	436,813	452,881	457,690	4,809	1.1%
TOTAL	\$ 976,577	\$ 993,640	\$ 1,018,033	\$ 1,044,371	\$ 26,338	2.6%

Final FY10 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 382,213	\$ 396,195	\$ 402,381	\$ 412,593	\$ 10,212	2.5%
ADVISORY BOARD / OTHER COMMITTEES	594,364	597,445	615,652	631,778	16,126	2.6%
TOTAL	\$ 976,577	\$ 993,640	\$ 1,018,033	\$ 1,044,371	\$ 26,338	2.6%

The **Executive Office** provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities, systems and employees.

The Executive Office includes the Office of Emergency Preparedness and the Planning and Coordination Department, and has direct oversight of the Internal Audit, Public Affairs and AACU Department, which are funded as part of the Support Services budget.

The goals of the Executive Office are to:

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Garner support from key constituents for MWRA programs.

The Executive Office budget supports the Executive Director's Office (which includes the Board of Directors cost center), the MWRA Advisory Board and Advisory Committees cost centers. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision-making. The MWRA Advisory Board was established by the Enabling Act to serve as a “watchdog” for MWRA’s customer communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. In addition, the Advisory Board reviews and comments on MWRA reports, holds hearings on related matters, and makes recommendations to the Governor and the Legislature. The other advisory

committees supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the Proposed FY10 direct expense budget.

Budget Highlights:

- Total Proposed FY10 Budget of \$872,000, a decrease of \$159,000 or 15.4% from FY09 Final, primarily due to the elimination of funds for the Water Supply Citizen's Advisory Committee (\$119,000) and Wastewater Advisory Committee (\$58,000).
- \$407,000 for **Wages and Salaries** represents 46.6% of the Executive Office budget. The proposed budget includes funding for four positions.
- \$460,000 or 52.6% of the Executive Office final budget is for the MWRA Advisory Board staff. The proposed budget which supports its operating expenses, including wages and salaries, space rental and general administrative office materials and supplies increased by \$6,000.
- **Professional Services** which totaled \$174,000 in FY09 is eliminated for the Water Supply Citizens' Advisory Committee and Wastewater Advisory Committee. Logistical support will be provided through Advisory Board staff by increasing their budget by \$5,000.

OFFICE OF EMERGENCY PREPAREDNESS

Final FY10 Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 298,277	\$ 240,963	\$ 335,281	\$ 396,375	\$ 61,094	18.2%	
ONGOING MAINTENANCE	185,006	216,872	425,531	376,633	(48,898)	-11.5%	
TRAINING & MEETINGS	5,371	(1,177)	-	-	-	-	
PROFESSIONAL SERVICES	-	1,812,091	1,838,392	1,660,223	(178,169)	(0)	
OTHER MATERIALS	2,165	191,274	39,583	51,317	11,734	29.6%	
OTHER SERVICES	1,452	8,232	9,305	20,820	11,515	123.8%	
TOTAL	\$ 492,271	\$ 2,468,255	\$ 2,648,092	\$ 2,505,368	\$ (142,724)	-5.4%	

The **Office of Emergency Preparedness (OEP)** was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit, which will respond to any intentional or accidental contamination of the water supply.

The Director of Emergency Preparedness reports directly to the Executive Director with a matrix reporting relationship to the Chief Operating Officer and the Managing Director. During FY09, one position was transferred to this Office. In addition, the Safety/Security Manager for Deer Island will continue to report to the Deer Island Director with a matrix reporting relationship to the Director of Emergency Preparedness to include this major facility in all Authority-wide emergency-planning efforts.

The goals of the Office of Emergency Preparedness are to:

- Develop and implement policies and programs to provide security, critical infrastructure protection and emergency planning for the MWRA’s water and wastewater systems.
- Equip, train and command the Emergency Service Unit.
- Develop and exercise emergency plans and procedures.
- Manage and direct contract security guard and system maintenance contracts.

FY09 Mid-Year Accomplishments:

- Completed the \$811,000 Tank Intrusion contract.
- Established a new boom deployment capability, including boat, trailers and a new support truck, for the Emergency Service Unit/Metro Ops boom deployment teams.
- Integrated the DITP security system into the larger Authority-wide security system.
- Revised Emergency Response Plans for all MWRA Dams.
- Installation of DITP security gate.

Highlights of FY10 Initiatives

- Continue the process of combining the existing contract security alarm services for the MWRA's wastewater facilities into a master contract, to be replaced over time as facilities are integrated into the Authority-wide security-monitoring system.
- Expand Emergency Service Unit (ESU) capabilities at the Weston Reservoir and continue to expand the training program for the ESU's boom deployment and mobile lab capabilities.
- Complete the outfitting, training and deployment of the new ESU Mobile Emergency Lab.
- Maintain Authority-wide consolidated security guard services contract and prepare bid specifications for a new contract.
- Integrate the physical security and technology components of five water pump stations, the Chelsea Screen House, the Intermediate Pump Station (IPS) and the Blue Hills Covered Storage Project with the Authority security system as these stations come on line.
- Implement the transition of the MWRA radio system to new frequencies as part of the national frequency reallocation program.
- Commence construction of a new security gate at the Chelsea facility.

Budget Highlights:

- Total Proposed FY10 Budget of \$2.5 million, is a decrease of \$300,000 or 10.7% from FY09 Original Budget, primarily due to decrease in professional services and maintenance lines.
- \$396,000 is for **Wages and Salaries**, an increase of \$61,000 or 18.1% over FY09 Budget, primarily due to inclusion of an additional staff member and contractual increases in wages and salaries. The Proposed budget includes funding for five positions.
- \$377,000 is for **Ongoing Maintenance**, a decrease of \$85,000 from FY09 Budget, primarily due to the elimination of funding for maintenance and replacement DITP security equipment, scheduled to be done in FY09. The proposed budget includes level-funding of \$250,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$100,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$5,000 to support Metro Facilities security fence and locks.
- \$1.7 million is for **Professional Services**, a decrease of \$276,000 from FY09 Budget, primarily due to revised scope of security staffing at the DITP and CNY facilities due to budget constraints. The Proposed FY10 Budget includes \$522,000 for security services contract for the Chelsea facility, \$591,000 for DITP facility, \$323,000 for the Carroll Water Treatment Plant, \$73,000 for the CNY facility, \$85,000 for the Account Manager, and \$19,000 for a Roving Guard to provide security services at various facilities during emergencies and construction projects. The proposed budget also includes \$47,000 for the purchase/lease of three Patrol Vehicles as specified by the security service contract, billed at 1/36th of total price (\$141,295) on a monthly basis. These vehicles will be turned over to MWRA at the end of the three-year service contracts.

- \$51,000 is for **Other Materials**, an increase of \$3,000 over FY09 Budget. The proposed budget includes \$27,000 for Health and Safety equipment needs and \$19,000 for the annual operation and maintenance of equipment assigned to the Mobile Emergency Laboratory.
- \$21,000 is for **Other Services**, a decrease of \$2,000 from FY09 Budget. The proposed budget includes \$20,000 for mandatory monthly testing and inspection of Self-Contained Breathing Apparatus (SCBA).

PLANNING AND COORDINATION DEPARTMENT

Final FY10 Current Expense Budget						
PLANNING AND COORDINATION by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 1,880,699	\$ 1,927,749	\$ 1,997,711	\$ 2,047,452	\$ 49,741	2.5%
OVERTIME	393	601	-	-	-	-
FRINGE BENEFITS	12	6	-	-	-	-
TRAINING & MEETINGS	18,113	10,812	11,046	6,425	(4,621)	-41.8%
PROFESSIONAL SERVICES	7,109	600	44,790	600	(44,190)	-98.7%
OTHER MATERIALS	129,290	136,269	139,285	150,093	10,808	7.8%
OTHER SERVICES	141,195	169,474	181,344	141,984	(39,360)	-21.7%
TOTAL	\$ 2,176,811	\$ 2,245,511	\$ 2,374,176	\$ 2,346,554	\$ (27,622)	-1.2%

The **Planning and Coordination Department** provides regulatory, public policy and public health advocacy for MWRA’s drinking water and wastewater programs. It provides decision support on planning, policy and operations matters, using a range of technical and analytic tools. Staff administers financial assistance programs to improve the infrastructure of member communities and to promote water conservation. The Department integrates staff efforts and coordinates MWRA activities related to system and capital planning, infrastructure renewal, and watershed management (in conjunction with the Commonwealth’s Department of Conservation and Recreation, DCR); strategic business planning; agency-wide performance measurement; and industry research. The following functions comprise the Department’s primary responsibilities:

Mapping, Modeling, and Data Analysis - Technical staff develops and maintain the Geographic Information Systems (GIS) for the water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff. Provide demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, perform drought forecasting and planning; evaluate system expansion requests; and develop and maintain water and wastewater system models in support of master planning, system operations, and optimization.

System Planning and Renewal - Staff with expertise in engineering and planning is responsible for water and wastewater system master planning, infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff review and process system expansion requests, water supply agreements, and emergency connection requests. Staff also assists the Operations Division on project siting, environmental reviews, and permitting, including impacts on MWRA facilities from other agency projects, and assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems.

Regulatory and Policy Matters - Staff work with various regulatory entities to promote cost-effective rule setting that protects the environment and promotes public health. Senior staff members actively work with industry associations and other groups with interests and agendas consistent with MWRA’s to advance water and wastewater regulations that make environmental and economic sense. Senior staff conducts strategic policy research on a broad range of topics and staff conducts public health research, including outreach and water quality reporting and the annual Consumer Confidence Report (CCR). Staff also coordinates with DCR to ensure water protection.

Community Support Program - Staff are responsible for inflow/infiltration (I/I) and sanitary sewer overflows (SSO) policy development, implementation, and reporting, provide oversight of and reporting on MWRA leak detection regulations and demand management programs, and report on the portions of MWRA’s NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs

including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems Best Management Practices technical assistance, water leak detection technical assistance, and water conservation grant programs.

FY09 Mid-Year Accomplishments:

- Promoted MWRA-wide energy and sustainability initiatives through the Energy and Sustainability Task Force. Advanced design and began the licensing process (Federal Energy Regulatory Commission) for the Loring Road hydroelectric facility, and submitted a grant application for \$375,000 for design and construction of the Wachusett hydro project (in January 2009, MWRA was notified of the grant award.)
- Identified MWRA projects for consideration for expected federal stimulus funding (projects were submitted to the Commonwealth of Massachusetts in January 2009).
- In conjunction with Engineering staff, identified short-term risk reduction measures for the Northern Intermediate High system that can be advanced to final design and construction. With Engineering and Operations staff, kicked-off planning, including extensive modeling activities, to address long-term transmission system redundancy.
- Continued a comprehensive analysis of fifteen climate change models to advance understanding of potential impacts on the MWRA water system.
- Continued advocacy-related research and analysis in support of MWRA water system expansion.
- Distributed \$4.5 million (grants and loans) for local sewer rehabilitation projects under the I/I Local Financial Assistance Program and \$12.1 million (loans) for local water quality projects under the Local Pipeline Assistance Program.
- Continued to assist local communities to advance water conservation education and water system leak detection and repair. Pilot programs for low-flow toilet retrofits in municipal buildings (351 toilet retrofits) and two community water audits were completed using an \$80,000 grant obtained for MADEP.
- Effectively communicated water quality information to customers and health officials.

Highlights of FY10 Initiatives

- Continue to promote MWRA-wide energy and sustainability initiatives and long-term research related to climate change.
- Advance the Loring Road hydro facility project into construction and proceed with detail design and permitting of the Wachusett hydro project.
- Track the status of MWRA projects selected by the Commonwealth for federal stimulus funding to ensure that MWRA maximizes available funding.
- In conjunction with EOEEA and others, develop and implement an MWRA water system expansion strategy.
- In conjunction with Engineering and Operations staff, continue to advance concept planning and design for capital projects, including storage and pipeline projects and development of long-term transmission and system redundancy options.

- Effectively communicate water quality information to customers and health officials.
- Coordinate with the Advisory Board to implement a new \$40 million phase 7 for the I/I Local Financial Assistance Program that will provide an additional \$18 million in grants and \$22 million in interest-free loans for local sewer rehabilitation projects.
- Continue to implement the water Local Pipeline Assistance Program to provide interest-free loans for local water projects, as well as outreach assistance for water conservation and water system leak detection and repair programs.
- In conjunction with Public Affairs staff and others, prepare and submit the Five Year Report to the Legislature

Budget Highlights:

- \$2.0 million is for **Wages and Salaries**, an increase of \$65,000 or 3.3% over FY09 Original Budget, primarily due to contractual increases in wages and salaries. The Proposed FY10 Budget includes funding for 20 full time and four part-time positions.
- \$6,000 is for **Training and Meetings**, a decrease of \$17,000 from FY09 Budget, primarily due to budget restraints, and limiting funding for out-of-state travel to the department director who holds a leadership position in a national organization.
- \$600 is for **Professional Services**, a decrease of \$16,000 from FY09 Budget, primarily due to the elimination of one-time matching funds for a DEP water conservation grant and funding for Mapping services for GIS updates.
- \$150,000 is for **Other Materials**, an increase of \$3,000 or 2.2% over FY09 Budget, primarily due to postage costs associated with the Consumer Confidence Report. The Proposed FY10 Budget includes \$121,000 for postage and mailing of the Consumer Confidence Report (CCR), \$15,000 for water conservation kits, and \$10,000 for mapping supplies.
- \$142,000 is for **Other Services**, a decrease of \$21,000 or 13.1% from FY09 Budget, reflecting a shorter CCR report. The Proposed FY10 Budget includes \$117,000 for printing the CCR, \$10,000 for printing lead in tap water brochures, and \$10,000 for reprinting water conservation bill stuffers.



Operations Division
Budget

OPERATIONS DIVISION

Final FY10 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 62,236,989	\$ 64,939,674	\$ 66,546,039	\$ 68,919,392	\$ 2,373,353	3.6%
OVERTIME	3,738,312	3,695,290	2,932,713	3,350,313	417,600	14.2%
FRINGE BENEFITS	76,965	73,923	51,742	70,000	18,258	35.3%
WORKERS' COMPENSATION	-	-	-	-	-	-
CHEMICALS	7,266,880	8,642,802	9,867,555	10,363,436	495,881	5.0%
UTILITIES	23,877,201	25,768,591	24,294,274	23,904,587	(389,687)	-1.6%
ONGOING MAINTENANCE	22,206,985	21,965,418	23,025,088	24,637,097	1,612,009	7.0%
TRAINING & MEETINGS	190,922	159,750	106,025	102,200	(3,825)	-3.6%
PROFESSIONAL SERVICES	5,066,978	3,604,540	3,401,480	3,072,657	(328,823)	-9.7%
OTHER MATERIALS	4,175,795	3,875,200	3,303,935	2,956,018	(347,917)	-10.5%
OTHER SERVICES	18,185,623	18,692,192	19,162,518	19,565,855	403,337	2.1%
TOTAL	\$ 147,022,650	\$ 151,417,380	\$ 152,691,369	\$ 156,941,555	\$ 4,250,186	2.8%

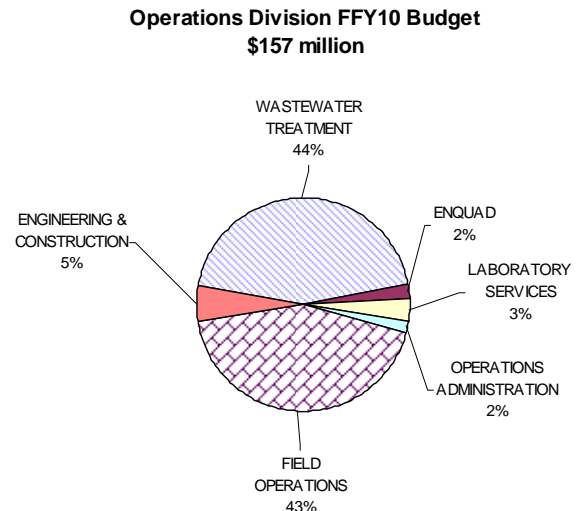
Final FY10 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
OPERATIONS ADMINISTRATION	\$ 3,911,975	\$ 3,508,179	\$ 3,338,066	\$ 2,665,046	\$ (673,020)	-20.2%
CSO PROGRAMS/ENERGY	(886)	(802)	-	-	-	-
WASTEWATER TREATMENT	65,900,649	66,740,245	67,870,718	69,158,298	1,287,580	1.9%
FIELD OPERATIONS	60,031,797	63,727,381	64,484,723	67,735,401	3,250,678	5.0%
LABORATORY SERVICES	5,244,556	5,040,457	5,094,203	5,486,129	391,926	7.7%
ENQUAD	4,084,769	4,152,300	3,805,918	3,510,824	(295,094)	-7.8%
ENGINEERING & CONSTRUCTION	7,849,790	8,249,705	8,097,741	8,385,857	288,116	3.6%
CAPITAL ENG & CONSTR.	-	(85)	-	-	-	-
TOTAL	\$ 147,022,650	\$ 151,417,380	\$ 152,691,369	\$ 156,941,555	\$ 4,250,186	2.8%

The **Operations Division** integrates wastewater and water system operations and maintenance, treatment, laboratory services, and engineering and construction functions, including implementation of the Combined Sewer Overflow (CSO) plan.

The FY10 Current Expense Budget (CEB) and existing structure of the Operations Division is shown in the pie chart to the right and described below.

The **Wastewater Treatment Department**, which accounts for 44% of the Operations Division budget, operates and maintains the Deer Island (DITP) and Clinton wastewater treatment plants and the Residuals Processing Facility at Fore River Staging Area (FRSA).

The **Field Operations Department**, which accounts for 43% of the Operations Division budget, is responsible for operating, maintaining, and metering the water and wastewater transport systems. The department also manages the water treatment and wastewater pretreatment functions, including the Carroll Water Treatment Plant (CWTP).



The **Engineering and Construction Department** provides in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems.

The **Environmental Quality Department (EnQuad)** manages the monitoring of Boston Harbor and Massachusetts Bay water quality and oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** supports various client groups in the Operations Division, in the Department of Conservation and Recreation, and in MWRA member communities, providing field sampling, laboratory testing and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** provides oversight and general management support in the areas of finance, contract administration, and personnel. The Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

The Operations Division's goals are to:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment and delivery and wastewater transport and treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the SDWA, the Clean Water Act, and NPDES permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Dispose of wastewater treatment by-products in a cost-effective and environmentally sound manner.

Major FY09 Accomplishments

Operations, Energy, and New Facilities Start-ups:

- Continued to monitor and modify operations of newer facilities including the Union Park CSO Detention Treatment Facility (start-up in Q3 FY07, operated in conjunction with BWSC), BOS019 CSO facility (start-up in FY07), and Braintree-Weymouth Replacement Pump Station (start-up in Q4 FY08).
- Continued implementation of process modifications to address water quality issues and/or to save energy (approximately -\$200,000 per year) at the Carroll Water Treatment Plant (CWTP).
- Completed implementation of Phase I energy audit recommendations at MWRA's Chelsea office building. Work involved installing energy-efficient lighting which is expected to save \$30,000 annually in energy costs.
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals including sodium hypochlorite and sodium hydroxide at numerous facilities; carbon dioxide and sodium bisulfite at the CWTP; polymer, sodium bisulfite, ferrous chloride, ferric chloride, and hydrogen peroxide at the DITP; hydrogen sulfide for the Framingham Extension Sewer, and aluminum sulfate at the Clinton Wastewater Treatment Plant.

- Generated revenue at two water hydroelectric facilities including \$616,000 at the Oakdale Station and \$168,000 at the Cosgrove Station.
- Continued to leverage Deer Island's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1,360,000 for FY09. Deer Island also self-generated 23% of the plant's total required power during this time period.
- Completed phase II of Deer Island's lighting equipment and controls retrofit project. Completion of the first two phases of this project will save approximately \$250,000 per year due to reduced power usage.
- Processed at the Pelletization Plant an average of 106 tons per day of sludge during FY09.
- Conducted training and ordered equipment to support transition to use of flaggers for traffic control on MWRA projects.

Maintenance:

- The Operations Division spent \$23 million on maintenance of which \$10.6 million was for materials and \$12.4 million for services.
- Completed numerous major maintenance projects including the following:
 - Replaced internal linings to two sodium hypochlorite tanks at Deer Island Wastewater Treatment Plant.
 - At the Clinton Wastewater Treatment Plant, repaired digester recirculating pump motors, replaced backflow preventer valves, and installed a new control card and weatherproof enclosure on the soda ash filter system.
 - Roof replacement on several buildings at the Deer Island facilities.
 - Significant progress on facility painting and coating repair at Deer Island.
 - Procured and implemented numerous service contracts including: Concrete/Steel Restoration and Coating, Boiler Maintenance, and Centrifuge Services at DITP; Instrumentation Maintenance for water and wastewater facilities.
 - At the Carroll Water Treatment Plant, replaced inverter cooling fans on four power supply units for the ozone generators, replaced parts on all variable speed motors that drive the chemical metering pumps, and finished numerous maintenance tasks associated with half-plant operations.
 - Performed quarterly testing on Chestnut Hill Emergency Pump Station pumps.
 - Water Pipeline crews installed a new surge control valve for Pump 7 at the Gillis Pump Station.
 - Installed and repaired fencing at the Fells Reservoir to enhance security.
 - Completed several projects to support operation and/or implementation of SCADA in MWRA facilities. Work included upgrading Shaft 9A, installing 90 feet of conduit in Shaft 8, and reviewing new screen data configuration and set points for two headwork facilities.
 - Continued with on-going work on dam maintenance to protect integrity of the structures.
 - Staff reviewed and rewrote maintenance Standard Operating Procedures for all equipment in the headworks, pumping stations and CSOs.
 - Operations performed ultrasonic thickness testing on the grit pods at the Chelsea Headworks. Plumbers and Mechanics assisted in the installation of a replacement pod.

- In the water system, exercised 411 and replaced 21 mainline valves; exercised 198 blow-off valves; and surveyed 262 miles of water mains for leaks.
- In the wastewater system, inspected 33 miles and cleaned 41 miles of pipeline. Also inspected 900 structures and rehabilitated 200 manholes.

Engineering, Construction, and Planning:

- Water System accomplishments include:
 - Professional Service Awards: Long-Term Water Transmission Redundancy Plan; CWTP UV Design ESDC/RI; and Ware Disinfection Facility UV Disinfection Facilities Design and CSRI, Water Transmission Redundancy Plan.
 - Construction Contract Awards: Section 97A Water Main Extension; Installation of Closed Loop Cooling System at CWTP; Northern High Service Revere and Malden Pipeline Improvements Construction (Revere Section 53); Winsor Chapman Valve; Wachusett Dam Phase 2 PCB Remediation; and Lower Hultman Chlorine Building Demolition.
 - Construction contract substantial completions: Wachusett Reservoir Spillway Improvements/Winsor Dam Repairs Construction; Wachusett Dam PCB Removal; SEH University Avenue Water Main Construction; Valve Replacement Construction 6; Walnut Street Pipeline Rehab; Cosgrove and Shaft A PCB Removal; and Southern Spine Distribution Mains Section 107 Phase I Construction.
- Wastewater System major achievements include;
 - Professional Service Award: West Roxbury Tunnel Rehabilitation Design
 - The City of Cambridge issued Notice to Proceed with design work for three of five projects that comprise the Alewife Brook Plan and BWSC issued Notice to Proceed with design work for Lower Dorchester Brook Sewer improvements, both part of MWRA's CSO Program.
 - Construction Contract Awards: North Dorchester Bay CSO Pump Station and Sewers; East Boston Branch Sewer Relief Sections 255 and 256; East Boston Branch Sewer Replacement pipe bursting; Brookline Sewer Separation Construction 1 (managed by Town of Brookline); Bulfinch Triangle Sewer Separation Construction and Reserved Channel Sewer Separation Contract 2 (both managed by BWSC).
 - Construction Contract Substantial Completions: Section 113 Siphon Modifications; I&P Facility Asset Protection Section 160; Cottage Farm Brookline Connection and Inflow Controls; and Morrissey Boulevard Storm Drain, Stony Brook Sewer Separation Design CS/RI and BOS019 Storage Conduit Construction Management Services (managed by BWSC).
- Wastewater Treatment's achievements include:
 - Awarded contracts and/or issued Notice to Proceed for the following projects:
 - Grit Air Handler Replacement; Heat Loop Pipe Replacement Construction; Gravity Thickener; DITP Switchgear Automation; Digested Sludge Overflow Piping and DSL Pump Replacement ESDC and REI services; STG System Modifications Design; Primary and Secondary Clarifier Rehabilitation Design and Construction; Transformer Replacement;
 - Power System Improvement Construction; As-Needed Design Phase 6; Residuals Processing Facility Condition Assessment;
 - Roof Replacement Phase I; Metals Lab Fume Hood Replacement Design and ESRI;
 - Design and Installation of Roof-Mounted Photovoltaic System at the DITP; and Two Wind Turbine Generators (furnish, design, and installation);
- Substantially completed the following projects: Sodium Hypochlorite Tanks 2 & 4 Reline; two phases of As-Needed Design, and Power Consultant Recommendations Design.

- MWRA's contractor for the North Dorchester Bay project completed the 10,382 foot-long, 17 foot diameter, soft ground tunnel six months ahead of the contract schedule in August, 2008.
- Assisted with preparation and submission of project requests for funding from the emerging federal economic stimulus program.

Environmental:

- Conducted staff training and commenced use of TRAC Department's new information system. Staff also made substantial progress in trouble-shooting implementation issues after system "went live" in August, 2008.
- The TRAC Department completed the following EPA-required work for significant industrial users: 218 inspections, 191 monitoring events, and 371 sampling of connections. This department also issued or renewed 158 permits (significant industrial users (SIU) and non-SIU).
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY08.
- Awarded three contracts of the Harbor and Outfall Monitoring Program to provide environmental monitoring of outfall effects as required by MWRA's discharge permit for Deer Island Treatment Plant (DITP).
- At DITP, treated 99% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during FY09.
- The Lab provided routine laboratory services and analysis for approximately 254,041 tests and also provided as-needed analytical support for numerous projects on topics including the following: large semi-annual Lead and Copper Rule testing, Clinton influent special characterization, harbor and outfall monitoring benthic sediment samples, CWTP residue testing during half-plant operations, CWTP tests profiling, Red Tide sampling, and testing, Fort Port Channel wet and dry weather sample testing, statistical data analysis of DITP effluent trace contaminants, and adding Hanscom Air Force Base as a regular Total Coliform Rule customer.
- The Lab started up the new LabWare Laboratory Information Management System (LIMS) at the Chelsea, Quabbin, and Southboro Labs for bacteria testing. Electronically reported results to DEP.
- EnQuad carried out required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish, and CSO receiving water quality, finalizing 20 technical reports in FY09 and presenting results to the Outfall Monitoring Science Advisory Panel (OMSAP) and public.
- Met all water quality disinfection standards in the drinking water system during FY09.

FY10 Operations Division Budget Highlights:

- The total FY10 Budget for the Operations Division is \$156.9 million, which is \$4.3 million or 2.8% more than FY09 spending. The FY10 Budget reflects an intentional effort by MWRA management to contain rate increases through several strategies including curtailing spending on less critical items or services wherever possible and implementing efficiency improvements that will result in long-term sustainable reductions to the Operations Division's budget.
- Significant increases from FY09 spending include:
 - o Net increase of \$2.4 million or 3.6% for **Wages and Salaries** primarily due to collective bargaining agreements offset by fewer filled positions during FY10 than in FY09 due to plans to reduce headcount through attrition. The Operations Division's FY10 Budget funds 938 positions on average during the year.

- o Net increase of \$1.6 million or 7.0% for **Maintenance** primarily due to new service contracts, increases in the price and/or scope of several contracts to be re-bid during FY10, and additional projects required to rehabilitate aging facilities.
- o Increase of \$496,000 or 5.0% for **Chemicals** primarily due to price increases for numerous chemicals including sodium hypochlorite, aqua ammonia, soda ash, and hydrofluosilicic acid. The FY10 CEB does not include additional chemicals for enterococcus treatment at Deer Island because MWRA management anticipates the new NPDES Permit to commence in early FY11 based on recent information.
- o Net increase of \$418,000 or 14.2% for **Overtime** primarily due to wage increases and the inclusion in FY10 of more overtime for emergencies and wet weather events than what was spent in FY09. FY09 overtime spending was considerably less than expected due to more favorable than usual weather.
- o Net increases of \$403,000 or 2.1% for **Other Services** primarily for inflation adjustments per the Residuals processing contract as compared to FY09 levels. The FY10 Budget is based on an average of 106 tons of sludge per day (TPD) which is consistent with FY09 actual levels and monthly historical averages since the start-up of the Braintree-Weymouth Tunnel. These increases are offset by decreases to Memberships and Dues and Grit and Screenings Disposal. As part of efforts to curtail spending, MWRA is reducing individual memberships for employees, discontinuing two research-related corporate memberships, and limiting travel to only critical training, vendor visits, or meetings. The decrease for grit and screenings disposal is primarily due to greater quantities in FY09 than budgeted in FY10, which is based on a multi-year average.
- Significant decreases from FY09 spending include:
 - o **Utilities** of \$390,000 or 1.6% primarily due to lower price projections for FY10 for electricity. The FY10 CEB also reflects more than \$850,000 in savings from several energy projects either recently implemented or planned for implementation in FY10. These projects include process changes at the CWTP; lighting retrofits at DITP and the Chelsea office building; and wind turbines and solar panels at DITP.
 - o Net decrease of \$348,000 or 10.5% for **Other Materials** primarily due to the purchase of fewer replacement vehicles in FY10 than in FY09 as part of efforts to curtail rate increase.
 - o Net decrease of \$329,000 or 9.7% for **Professional Services** primarily due to reductions to the Harbor and Outfall Monitoring (HOM) Program. MWRA has formally requested that EPA revise the scope of required outfall and harbor monitoring requirements and has adjusted the FY10 CEB to reflect partial year implementation of the proposed changes.
- The FY10 Budget is also subject to risk in the following areas: scope of the HOM Program (pending EPA approval), timing of the implementation of Deer Island's new NPDES permit, chemical and utility usage and prices, potential impacts of the Deer Island cable relocation project, and more than expected emergency-related maintenance and overtime needs.

Highlights of FY10 Initiatives

Operations, Energy, and New Facilities Start-ups:

- Continue to identify and implement optimization opportunities at relatively new facilities including Braintree-Weymouth Replacement Pump Station, Union Park CSO Detention Treatment Facility, and BOS019 CSO facility.
- Continue to implement SCADA in Wastewater Operations facilities.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. This includes completion of the feasibility study, implementation, and the use of wind-power at MWRA facilities. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.

- Provide 24% of Deer Island's power requirements through self-generation.
- Continue optimization of energy and chemical usage at the CWTP based on the recommendations from the energy audit and water quality expert panel.

Engineering & Construction:

- Fast-track work wherever possible on projects that receive funding from the federal economic stimulus program.
- Award numerous contracts and/or issue Notice To Proceeds for the Wastewater System including the following:
 - o Deer Island: Deer Island North Main Pump Station VFD Replacement; Digester Mod 1 & 2 Pipe Replacement; Cryogenics Plant Equipment Replacement Construction; Digester Sludge Pump Replacement Construction; Roof Replacements; STG System Modifications Construction; Butterfly Valve Replacement; North Main Pump Station; and Deer Island Fire Alarm System Replacement.
 - o Other Wastewater Facilities: NI Mechanical and Electrical Replacements; Headworks Upgrades Design; NI Wind Turbines; Prison Point HVAC Upgrades; Columbus Park and Ward Street HVAC Upgrades; and Clinton Digester Cleaning and Rehabilitation.
 - o Combined Sewer Overflow Program: North Dorchester Bay Ventilation Building Construction; Reserved Channel Sewer Separation BWSC Contract 1 (Outfall Repairs); Reserved Channel Sewer Separation BWSC Contract 3A; Reserved Channel Sewer Separation BWSC Contract 3B; Lower Dorchester Brook Sewer Improvements (managed by BWSC); and North Dorchester Bay ROCF Construction
- Award numerous contracts and/or issue Notice To Proceeds for the Water System including the following:
 - o Lower Hultman Rehab CP6A Construction
 - o Southern Spine Distribution Mains Section 107 Phase 2
 - o Lynnfield Pipeline Phase 2 Construction
 - o New Connecting Mains CP-5 Sections 18, 50, and 51 Pipeline Rehabilitation
 - o Winsor Dam Shaft 12 Sluice Gates/Pipe Design
 - o Sudbury Aqueduct Short-term Repair Construction
 - o WASM Section 28 Pipeline Rehabilitation
 - o Immediate Dam Repair Design
 - o NIH Short-term Improvements Design
 - o Oakdale Phase 1A Electrical Design
- Complete the following Capital Improvement Program design and construction phases for the Wastewater System:
 - o I&P FAMP phases including Melrose Sewer, Remote Headworks Concept Plan, Hingham Pump Station Isolation Gate Construction, NI Headworks Fire Alarm Wire.
 - o DITP FAMP phases including Roof Replacement Phase 1, Grit Air Handler Replacement, Expansion Joint Repair Construction 2, Misc VFD Replacements, Low Voltage Lighting Replacement, STG System Modifications Design and Construction. Also, DI Wind.
 - o CSO North Dorchester Bay Tunnel Contract, South Dorchester Bay Sewer Separation (Commercial Point and Fox Point) Design, Morrissey Boulevard Drain Design, and Charles River CSO Controls Brookline Connection Inflow Controls Design.
 - o I/I Grants Phase IV.
 - o Wastewater Central Monitoring Construction 2

- Complete the following Capital Improvement Program design and construction phases for the Water System:
 - o Wachusett Dam and Spillway Design.
 - o Wachusett PCB Remediation Phase 2 Construction.
 - o CWTP Ancillary Modifications 3 & 4 Design.
 - o Blue Hills Covered Storage Design/Build.
 - o Winsor Power Station Chapman Valve Construction.
 - o Section 97A Pipeline Construction.
 - o NHS Section 53 Revere Construction.
 - o Rehab of 5 Pump Stations.
 - o CWTP Closed Loop Construction

Maintenance:

- Optimize staff resources, overtime, service contract scopes and use, and use of as-needed design contracts to complete routine and major maintenance projects.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, lighting equipment retrofits, Zurn boiler maintenance and repairs, digas compressor rebuilds, reactor mixer gearbox rebuilds, and elevator controller replacement.
- Work on numerous projects in Field Operations including meter inspection and repairs, ozone generator rebuild, pump station VFD inspection and repairs, and ozone stone replacement.
- Continue work on multi-year initiative of replacing surge valves in water pump station facilities.
- Continue expanding use of Maximo (maintenance tracking software) in Field Operations Department facilities.
- Wherever appropriate, continue transition to use of flaggers versus police details on maintenance projects requiring traffic control.

Environmental:

- Advocate with regulators for the adoption of a reduced scope of the harbor and outfall monitoring plan to account for eight years of post-outfall data.
- Carry out the required outfall, harbor, and river monitoring, implement additional in-house data management tasks, implement in-house preparation of interpretive reports, and deploy continuous monitoring instrumentation on the National Oceanic and Atmospheric Administration (NOAA) buoy.
- Ensure the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective.
- Implement the first full year of use of the new TRAC-IS. For the Laboratory Information Management System (LIMS), continue to implement the new system in conjunction with MIS.
- Plan and implement the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits. This work can commence after EPA issues the new Clinton NPDES permit during FY10.

OPERATIONS ADMINISTRATION

Final FY10 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 1,912,784	\$ 1,842,292	\$ 1,798,240	\$ 1,901,898	\$ 103,658	5.8%
OVERTIME	16	277	526	-	(526)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
WORKERS' COMPENSATION	-	-	-	-	-	-
ONGOING MAINTENANCE	(231)	-	171	-	(171)	-100.0%
TRAINING & MEETINGS	625	1,814	-	2,200	2,200	-
PROFESSIONAL SERVICES	-	-	23,844	60,000	36,156	151.6%
OTHER MATERIALS	1,855,134	1,386,091	1,238,916	607,250	(631,666)	-51.0%
OTHER SERVICES	143,647	277,705	276,369	93,698	(182,671)	-66.1%
TOTAL	\$ 3,911,975	\$ 3,508,179	\$ 3,338,066	\$ 2,665,046	\$ (673,020)	-20.2%

The **Operations Administration Department** is comprised of the Office of the Chief Operating Officer and Division level support staff. The department goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: labor relations, finance, contract administration and general administration.

Budget Highlights:

- \$1.9 million for **Wages and Salaries**, which represents 71% of the FY10 CEB. The budget includes funding for 24.75 positions and a temporary employee to provide support for MWRA’s sustainability initiatives.
- **Professional Services** includes \$50,000 for energy audits of the division’s facilities and \$10,000 to cover electrical inspections of the Division’s facilities as required by the Massachusetts Department of Public Safety.
- \$607,000 for **Other Materials**, a decrease of \$632,000 compared to the FY09 spending primarily due to fewer vehicle replacements planned for FY10 versus FY09. This is the result of efforts to contain rate increases by curtailing purchases. The FY10 vehicle budget of \$600,000 will allow MWRA to replace only the high priority vehicles that meet the eligibility criteria. Actual spending for vehicle purchases for FY02-FY09 is as follows:

FY02:	\$ 622,000
FY03:	\$ 120,000
FY04:	\$1,580,000
FY05:	\$1,237,289
FY06:	\$ 717,381
FY07:	\$1,846,396
FY08:	\$1,425,758
FY09:	\$1,134,779

From FY00 to FY03, MWRA limited replacement of vehicles pending completion of an extensive fleet review. In FY03 MWRA reduced the active fleet by more than 10% (from 561 to 496 vehicles) as a result of this initiative. For example, staff identified opportunities to meet the needs of the new waterworks system facilities through redeployment of existing vehicles rather than adding to the fleet. Analysis as of mid-FY09 indicated that approximately half of MWRA’s active, operable fleet will be seven years or older during FY10.

- \$94,000 is for **Other Services** of which the majority is for Authority-wide memberships including the National Association of Clean Water Agencies, Association of Metropolitan Water Agencies, American Waterworks Association, and the Boston Harbor Association marine debris program. The \$175,000 decrease from the FY09 spending is due to the discontinuation of numerous memberships as part of MWRA's decision to curtail non-essential spending. The major decrease from FY09 to FY10 is for participation in the American Waterworks Research Foundation.

WASTEWATER TREATMENT

Final FY10 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 16,132,014	\$ 16,764,551	\$ 17,114,724	\$ 17,579,489	\$ 464,765	2.7%
OVERTIME	1,177,058	1,214,864	798,752	1,059,965	261,213	32.7%
FRINGE BENEFITS	25,282	27,028	15,664	23,105	7,441	47.5%
CHEMICALS	2,353,539	2,828,939	3,280,345	3,297,900	17,555	0.5%
UTILITIES	14,959,308	15,531,352	14,946,585	13,902,478	(1,044,107)	-7.0%
ONGOING MAINTENANCE	14,542,271	14,118,592	14,459,802	15,414,628	954,826	6.6%
TRAINING & MEETINGS	84,074	39,674	55,088	51,600	(3,488)	-6.3%
PROFESSIONAL SERVICES	981,675	104,988	387,342	472,188	84,846	21.9%
OTHER MATERIALS	423,512	665,675	403,706	504,178	100,472	24.9%
OTHER SERVICES	15,221,916	15,444,582	16,408,710	16,852,767	444,057	2.7%
TOTAL	\$ 65,900,649	\$ 66,740,245	\$ 67,870,718	\$ 69,158,298	\$ 1,287,580	1.9%

Final FY10 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
DEER ISLAND	\$ 48,202,995	\$ 48,776,728	\$ 49,020,875	\$ 49,887,353	\$ 866,478	1.8%
RESIDUALS	16,460,289	16,494,002	17,315,292	17,671,442	356,150	2.1%
CLINTON	1,237,365	1,469,515	1,534,551	1,599,503	64,952	4.2%
TOTAL	\$ 65,900,649	\$ 66,740,245	\$ 67,870,718	\$ 69,158,298	\$ 1,287,580	1.9%

The **Deer Island Treatment Plant**, the **Residuals Management Program**, and the **Clinton Treatment Plant** comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 44% of the Operations Division's FY10 CEB and 33% of MWRA's FY10 direct expense budget.

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where bricks, logs, and other large objects are screened out before the influent is transmitted to Deer Island through underground tunnels. At Deer Island, wastewater from the north system is pumped through chambers that remove grit and detritus for disposal in an off-island landfill. South system flows undergo preliminary treatment at the Nut Island headworks and are then pumped directly into the primary treatment facility, bypassing the grit removal chambers. The primary treatment facility consists of stacked clarifiers where scum rises to the top and the sludge settles to the bottom. Secondary reactors and clarifiers remove organic matter through biological and gravity treatment. Primary and secondary sludge and scum are thickened, anaerobically digested, and further thickened to reduce the volume of sludge before it is pumped through the Braintree-Weymouth tunnel to MWRA's Residuals Processing Facility at Fore River. Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

DEER ISLAND TREATMENT PLANT

Final FY10 Current Expense Budget DEER ISLAND TREATMENT PLANT by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 15,585,586	\$ 16,135,014	\$ 16,446,940	\$ 16,900,481	\$ 453,541	2.8%
OVERTIME	1,123,069	1,136,768	751,401	992,873	241,472	32.1%
FRINGE BENEFITS	24,474	25,951	15,028	21,962	6,934	46.1%
CHEMICALS	2,187,772	2,618,952	3,042,991	3,043,388	397	0.0%
UTILITIES	14,705,747	15,245,426	14,618,424	13,592,899	(1,025,525)	-7.0%
ONGOING MAINTENANCE	12,629,991	12,280,634	12,854,386	13,885,171	1,030,785	8.0%
TRAINING & MEETINGS	84,074	37,527	55,088	50,000	(5,088)	-9.2%
PROFESSIONAL SERVICES	966,959	100,942	362,425	470,500	108,075	29.8%
OTHER MATERIALS	376,989	535,205	296,823	357,079	60,256	20.3%
OTHER SERVICES	518,335	660,310	577,369	573,000	(4,369)	-0.8%
TOTAL	\$ 48,202,996	\$ 48,776,729	\$ 49,020,875	\$ 49,887,353	\$ 866,478	1.8%

Program Description and Goals:

The **Deer Island Treatment Plant** budget accounts for 32% of the Operations Division's FY10 CEB. DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant. There are three pump stations. The pumping capacity at the Deer Island plant has dramatically increased the volume of wastewater that can be taken into the plant from the conveyance tunnels. This reduces back-ups and overflows throughout the system when wet weather causes peaking of system flows.

After pumping, north system flows pass through grit chambers that remove grit for disposal in an off-island landfill. South system flows are pre-treated for grit at the remote headworks on Nut Island. Flow is routed to primary treatment clarifiers, which remove about half of the pollutants brought to the plant in typical wastewater (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remains in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. More than 150 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge and scum from primary treatment are thickened in gravity thickeners. Sludge and scum from secondary treatment are thickened in centrifuges. Polymer is used in the secondary thickening process to increase its efficiency. Digestion occurs in 12 egg-shaped anaerobic digesters, each 90 feet in diameter and approximately 130 feet tall. Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of purchased energy. Digested sludge is pumped through the inter-island Braintree-Weymouth tunnel directly to the MWRA's Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

Organizational Structure:

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Engineering, and Operations and Maintenance (O&M) Support.

- Operations manages the day-to-day operation of plant processing units, perform minor preventative maintenance activities, and oversee plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manage and operate the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 emergency megawatts of electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring that critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improve efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures that there is adequate stock for maintenance repairs and plant operations.
- Capital Engineering provides technical support services for both the Operations and Maintenance Units. Staff is responsible for all aspects of plant engineering including developing, procuring, and implementing all service contracts, consultant designs, and capital improvement projects at Deer Island. This group also manages the on-island Technical Information Center, which provides services to the DITP community and external constituents, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- O&M Support Section is responsible for supporting the business needs of the plant. The Administration and Finance Unit provides financial and administrative support to meet daily operational needs of the plant. The Safety/Security Unit is responsible for ensuring a safe and healthful work environment for employees and minimizing MWRA's exposure to liability and property loss or damage.

The Deer Island Director's Office provides overall policy direction and support in the areas of public access and community agreements.

Operating Assumptions

Deer Island's FY10 CEB assumes treatment of an average flow of 362.6 mgd based on eight years of historical data. Sludge production is projected to be an average of 106 TPD of digested sludge pumped to FRSA (TSS basis) through the Braintree-Weymouth tunnel. This estimate is based on seven years of historical data adjusted to account for the discontinuation of the DSL centrifuges after start-up of the Braintree-Weymouth tunnel.

Deer Island's FY10 CEB accounts for the impact of self-generation of electricity from the steam turbine generator, combustion turbine generators, hydroelectric generators and photovoltaic panels. In addition, FY10 will see the startup of two 600 kW wind turbine generators. In total, these assets will meet approximately 25% of the total energy requirements resulting in an avoided cost savings of approximately \$4.0 million.

Deer Island continues to comply with the conditions of the current NPDES Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from EPA, Deer Island's FY10 CEB assumes the new permit will not go into effect until after FY10. When the new permit is issued, Deer Island's treatment process will be required to kill enterococcus in addition to fecal coliform to comply with revised regulatory requirements.

Budget Highlights:

- \$16.9 million for **Wages and Salaries**, a \$454,000 or 2.8% increase from FY09 actual spending, which is the result of contractual increases. The FY10 CEB funds on average 234 permanent positions. Also included is \$97,000 for stand-by pay to support operational and maintenance needs and \$78,000 for temporary employees for engineering support and painting.
- \$993,000 for **Overtime** for operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections). The FY10 CEB is 241,000 or 32% greater than FY09 actual spending, primarily due to reestablishment of maintenance overtime for backlog reduction and the completion of planned projects.
- \$3.0 million for **Chemicals**, which is level funded with FY09 actual spending. The budget reflects a \$371,000 increase in sodium hypochlorite due to the timing of FY09 deliveries and a \$74,000 increase in activated carbon due to the timing of FY09 change outs. These increases are offset in part by reductions of \$344,000 in iron salts and \$71,000 in sodium hydroxide due to unit price decreases. A new NPDES permit was originally anticipated to be issued in the fourth quarter of FY09 but is now expected to be delayed to FY11.
- \$13.6 million for **Utilities**, a \$1.0 million or 7% decrease from FY09 actual spending. The FY10 CEB includes \$11.9 million for electricity and \$500,000 for diesel fuel. Electricity is \$298,000 less than FY09 actual spending primarily due to price decreases. The FY10 CEB assumes a full year of electricity unit pricing through a combination of spot market and fixed block pricing. Diesel fuel decreased by \$681,000 which reflects lower planned purchases in FY10 resulting from FY09 year-end inventory levels. The FY10 CEB includes \$1.2 million for water and is primarily level funded with FY09 Actual as expected price increases will be offset by less usage as a result of successful water use reduction initiatives implemented at Deer Island.
- \$13.9 million for **Maintenance** including \$4.6 million for materials and \$9.3 million for services. The budget is \$1.0 million or 7.4% greater than FY09 spending due in part to increased maintenance needs (i.e. painting and coating repair, equipment retrofitting) associated with an aging facility. Also, the budget includes expected price increases for service contracts that will be rebid during FY10.

- \$471,000 for **Professional Services**, a \$108,000 increase or 29.8% from FY09 actual spending due to greater use of as-needed design services to support CEB maintenance projects. As of FY09, MWRA changed budgeting practices to more appropriately reflect the on-going cost of asset management by charging the expenditures associated with maintenance-related work to the CEB versus the CIP as in the past.
- \$357,000 for **Other Materials** of which \$114,000 is for work clothes, \$66,500 for vehicles expenses (tolls, mileage, and gas), and \$60,000 for health and safety materials. The FY10 CEB is \$60,000 or 20% greater than FY09 actual spending due to a \$110,000 credit for a settlement with the former work clothes vendor in FY09.
- \$573,000 for **Other Services** primarily for the ambulance service contract \$240,000, permit fees \$105,000, telephones \$40,000, fax/copier leasing and servicing \$48,000, HAZmat/safety services \$86,000, and freight charges \$20,000.

RESIDUALS MANAGEMENT

Final FY10 Current Expense Budget RESIDUALS by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 100,796	\$ 102,663	\$ 103,200	\$ 109,268	\$ 6,068	5.9%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	1,660,085	1,633,243	1,398,551	1,299,592	(98,959)	-7.1%
TRAINING & MEETINGS	-	2,147	-	1,500	1,500	-
PROFESSIONAL SERVICES	13,028	1,459	-	-	-	-
OTHER MATERIALS	318	250	-	300	300	-
OTHER SERVICES	14,686,062	14,754,241	15,813,540	16,260,782	447,242	2.8%
TOTAL	\$ 16,460,289	\$ 16,494,003	\$ 17,315,291	\$ 17,671,442	\$ 356,151	2.1%

Program Description and Goals:

The **Residuals Management Program** manages the processing and disposal of approximately 106 dry tons per day (TSS) of sludge from the anaerobic digestion process at Deer Island, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

In FY05, major operational changes occurred regarding sludge processing at Deer Island. The Braintree-Weymouth cross-harbor tunnel came on-line in April 2005. The previous practice of thickening and barging sludge from Deer Island to Fore River ceased. Deer Island began pumping a much lower concentration of sludge (2.0% to 2.5% average total suspended solids) to the Residuals Processing Facility.

- The average dry tons per day (TSS) is budgeted at 106 tons per day, the same as the FY09 CEB.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings and scum screenings. A two year contract with a new vendor started in May 2009.
- Historically MWRA had a long term (30 year) contract required by law to provide reserve landfill capacity for disposal of sludge as a back-up in the event of any problems with the primary disposal methods. During FY06 MWRA applied for and was granted permission by the Federal District Court to terminate this contract effective March 31, 2006 on the basis of demonstrated reliability of its primary residuals program. This resulted in an \$817,000 annual savings for the Authority. NEFCo remains contractually obligated to provide back-up disposal capability, and will meet this obligation by maintaining a list of disposal sites. In FY09, NEFCo had to exercise this back-up plan for 40 days while fire-related repairs were being made to the facility.

Budget Highlights:

- \$109,000 or 5.9% of the FY10 CEB is for **Wages and Salaries**, which funds one position. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, and Operations Administration.
- \$1.3 million or 7% of the FY10 CEB is for **Maintenance**, the capital repair, replacement and improvement component of the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The FY10 CEB for the NEFCo contract is \$88,000 or 6.4% less than FY09 spending. The maintenance budget also includes a small amount for FRSA repairs.
- \$15.3 million or 87% of the FY10 CEB is for **Sludge Pelletization**. The FY10 CEB for the NEFCo contract is \$653,000 or 4.4% more than FY09 spending primarily due to inflation. The FY10 CEB is based on an average of 106 tons per day (TPD) consistent with historical trends and actual FY09 quantities.
- \$916,000 or 5% of the FY10 CEB is for **Grit and Screenings** disposal, a decrease of \$151,000 or 14% from FY09 spending. The FY10 CEB assumes disposal quantities of 5,850 tons, which is based on multi-year historical averages but is approximately 5% less than FY09 actual quantities.
- \$2,600 of the FY10 CEB is for **Permit Fees**, a decrease of \$40,000 from the FY09 spending. The FY09 spending included \$39,400 for sludge dryer stack testing of two trains required by DEP to be performed every two years.

CLINTON WASTEWATER TREATMENT PLANT

Final FY10 Current Expense Budget CLINTON WASTEWATER TREATMENT PLANT by Line Item							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 445,633	\$ 526,875	\$ 564,583	\$ 569,740	\$ 5,157	0.9%	
OVERTIME	53,988	78,096	47,352	67,092	19,740	41.7%	
FRINGE BENEFITS	808	1,077	636	1,143	507	79.7%	
CHEMICALS	165,767	209,987	237,353	254,513	17,160	7.2%	
UTILITIES	253,562	285,925	328,161	309,579	(18,582)	-5.7%	
ONGOING MAINTENANCE	252,196	204,715	206,865	229,865	23,000	11.1%	
TRAINING & MEETINGS	-	-	-	100	100	-	
PROFESSIONAL SERVICES	1,688	2,588	24,917	1,688	(23,229)	-93.2%	
OTHER MATERIALS	46,205	130,220	106,884	146,799	39,915	37.3%	
OTHER SERVICES	17,519	30,031	17,801	18,984	1,183	6.6%	
TOTAL	\$ 1,237,366	\$ 1,469,514	\$ 1,534,552	\$ 1,599,503	\$ 64,951	4.2%	

Program Description and Goals:

The **Clinton Wastewater Treatment Program** provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, was completed in 1992.

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 mgd. The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

Budget Highlights:

- \$570,000 for **Wages and Salaries** represents 36% of the FY10 CEB. This funds seven positions and one part-time temporary contract clerical position.
- \$67,000 for **Overtime**, which represents 4% of the FY10 CEB. Overtime is used to meet the 24 hour, 7 day per week emergency coverage requirement and to provide increased maintenance resulting from an aging facility.
- \$255,000 for **Chemicals** represents 16% of the FY10 CEB. This is a \$17,000 or 7% increase from FY09 spending primarily due to additional usage associated with anticipated changes in phosphorous permit requirements.
- \$310,000 for **Utilities** represents 19% of the FY10 CEB. This is a \$19,000 or 6% decrease from the FY09 spending reflecting price decreases in electricity and heating fuel.

- \$230,000 for **Maintenance** represents 14% of the FY10 CEB. This is a \$23,000 or 11% increase from the FY09 spending. The FY10 budget includes \$80,000 for a new process water system.
- \$147,000 for **Other Materials**, including \$132,250 for clean fill for the landfill operation. The FY10 CEB is \$40,000 or 37% more than FY09 spending due to suspension of the sludge reuse program for mixing and covering at the landfill. Per regulatory directive, this change in practice has increased the quantity and budget for fill material.

FIELD OPERATIONS

Final FY10 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 31,787,874	\$ 33,397,317	\$ 34,567,080	\$ 35,894,652	\$ 1,327,572	3.8%
OVERTIME	2,441,917	2,275,528	2,001,173	2,058,432	57,259	2.9%
FRINGE BENEFITS	50,685	45,366	35,498	44,945	9,447	26.6%
CHEMICALS	4,913,341	5,813,864	6,587,210	7,065,536	478,326	7.3%
UTILITIES	8,765,861	10,216,796	9,327,360	9,974,457	647,097	6.9%
ONGOING MAINTENANCE	7,222,109	7,637,475	8,341,580	8,884,799	543,219	6.5%
TRAINING & MEETINGS	90,698	76,299	35,326	37,000	1,674	4.7%
PROFESSIONAL SERVICES	1,166,442	625,450	458,458	344,060	(114,398)	-25.0%
OTHER MATERIALS	902,493	932,189	767,292	950,090	182,798	23.8%
OTHER SERVICES	2,690,377	2,707,097	2,363,746	2,481,430	117,684	5.0%
TOTAL	\$ 60,031,797	\$ 63,727,381	\$ 64,484,723	\$ 67,735,401	\$ 3,250,678	5.0%

Final FY10 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
TRAC	\$ 3,180,877	\$ 3,381,274	\$ 3,410,288	\$ 3,597,929	\$ 187,641	5.5%
WASTEWATER OPERATIONS	10,408,746	11,439,765	11,399,949	12,283,869	883,920	7.8%
WATER OPERATIONS & MAINT	19,389,090	20,669,390	21,527,412	22,573,789	1,046,377	4.9%
METRO MAINTENANCE	15,480,625	16,719,487	16,765,543	17,659,833	894,290	5.3%
OPERATIONS SUPPORT	7,108,356	7,364,414	7,235,436	7,751,023	515,587	7.1%
FOD ADMIN	4,464,103	4,153,051	4,146,095	3,868,958	(277,137)	-6.7%
TOTAL	\$ 60,031,797	\$ 63,727,381	\$ 64,484,723	\$ 67,735,401	\$ 3,250,678	5.0%

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

The Toxic Reduction and Control (TRAC) Department operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA's EPA approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (about 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (about 400 annually). The program tracks over 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, PIMS, to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed headworks facilities; 12 fully automated pumping stations; and seven CSO facilities which are similarly un-staffed. The wastewater system is monitored and controlled from the operations control center (OCC) in Chelsea.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 209 mgd of water from the Quabbin and Wachusett reservoirs to the community water systems. The water system encompasses a service area from Chicopee in the western part of the state to Lynnfield, Wakefield, Marblehead, Norwood and

Canton in the metropolitan area. This unit operates and maintains MWRA's western waterworks facilities, including the Carroll Water treatment Plant, the Metrowest Tunnel, the Ware Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

Metropolitan Maintenance is responsible for maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintain pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintains a waterworks network of approximately 300 miles of water mains, 4,800 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, eleven distribution storage tanks and reservoirs; and a wastewater network of 240 miles of wastewater interceptors and appurtenances, 12 pump stations, four headworks, and five CSO facilities. In addition, this unit performs TV inspections of the wastewater interceptor system and leak detection.

Operations Support provides technical support to FOD in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinates all engineering issues related to the operation of the water and wastewater systems. The Quality Assurance Unit monitors water treatment effectiveness, identifies treatment issues, and develops recommendations for water treatment improvements. Data management activities include performance reporting on water quality, development and maintenance of water quality treatment and optimization models, and tracking and analyzing chemical and hydraulic flow data. The Metering and Monitoring unit maintains 160 community water meters, 16 contract community water meters, 14 master water meters, and 237 wastewater meters. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and wastewater Supervisory Control and Data Acquisition (SCADA) systems.

FOD Administration provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

Budget Highlights:

- \$35.8 million or 53% of the FY10 CEB is for **Wages and Salaries** of which \$35.2 million or 98% is for regular pay to fund 512 positions, seven fewer positions than were funded in FY09. The budget also includes \$350,098 for stand-by pay to support operational and maintenance needs, \$17,000 for interns primarily for quality assurance support in Waterworks, and \$25,000 primarily for temporary employees for water quality sampling. The wages and salaries line item is \$1.3 million more than FY09 year-end actual spending primarily due to contractual wage increases.
- The FY10 CEB for **Overtime** is \$2.1 million, including \$628,000 for operational coverage needs, \$707,000 for emergency related overtime, and \$683,000 for planned overtime for scheduled maintenance and training. Overtime is less than FY09 year-end actual spending primarily due to a reorganization of shift work in Wastewater Operations, which should reduce use of coverage overtime.
- \$7.1 million or 10.4% of the FY10 CEB is for **Chemicals**, of which \$6.3 million is for water treatment and \$679,000 is for wastewater treatment. The budget includes \$3.0 million for soda ash for alkalinity control, \$1.2 million for sodium hypochlorite and \$365,000 for aqua ammonia for disinfection, \$952,000 for hydrofluosilic acid for fluoridation, \$620,000 for liquid oxygen for the CWTP ozone generation, \$241,000 for sodium bisulfite for dechlorination, \$288,000 for carbon dioxide to control water pH, and \$260,000 for Nitrazyme and VX-456 for Framingham Extension Relief Sewer odor and corrosion control. The FY10 Chemicals budget is \$478,000 or 7.3% more than FY09 actual spending primarily due to price increases.

- \$10 million or 14.7% of the FY10 CEB is for **Utilities**, including \$7.1 million for electricity, \$1.7 million for diesel fuel, \$716,000 for natural gas, and \$407,000 for water. The FY10 utility budget is \$647,000 more than FY09 actual spending primarily due to price assumptions based on market forecasts.
- \$8.8 million or 13.1% of the FY10 CEB is for **Maintenance**, including \$2.2 million in major projects, \$3.1 million in day-to-day projects, and \$3.5 million for services. The FY10 Maintenance budget is \$543,000 more than FY09 actual spending due to a significant increase in planned maintenance projects and improved capacity to complete the work as a result of a recent reorganization of the Metro Maintenance Department. Some of the major projects planned for FY10 include rebuilding the CWTP ozone generator \$225,000, replacing grit piping and pods \$222,000, rehabilitating the Prison Point Water Feed Line \$176,000, replacing the New Neponset Pump Station odor control system \$140,000, cleaning Nash Hill Tank \$90,000. The budget also includes approximately \$400,000 for energy efficiency initiatives such as replacing pump station motors with variable frequency drives.
- \$344,000 or .5% of the FY10 CEB is for **Professional Services**, including \$330,000 for engineering, which is made up of \$200,000 for as-needed engineering services, \$80,000 for the NPDES related Local Limits Study expected to be underway in FY10, and \$50,000 for dam inspection and engineering work related to dam repair. The budget contains \$10,560 for lab and testing services related to water quality, and \$3,500 for the Dig Safe program. Professional Services decreased from FY09 spending primarily due to a shift from annual to bi-annual dam inspection, plans to do phase III of the Rutland/Holden survey using in-house resources instead of outside consultants, and the completion in FY09 of several non-recurring energy assessments.
- \$950,000 or 1.4% is for **Other Materials**, including \$325,000 for vehicle expenses for gas, mileage reimbursements and tolls, \$204,000 for work clothes, \$202,000 for health and safety supplies, and \$125,000 for lab and testing supplies. The FY10 CEB is \$183,000 or 23.8% greater than FY09 actual spending primarily due to a FY09 credit for a settlement with the former work clothes vendor.
- \$2.5 million or 3.7% is for **Other Services**, including \$1.4 million for annual lease payments for the Chelsea office building, \$561,000 for telephone and SCADA needs at various facilities, \$250,000 for required police details, and \$32,000 for permit fees. The FY10 CEB is \$118,000 or 5.0% more than FY09 year-end actuals primarily because spending was curtailed in FY09 in several key areas in response to the loss of debt service assistance. The change from FY09 to FY10 reflects expected increases in expenses associated with the Chelsea Facility lease payments and a reassessment of needs for services such as police details and other services.

LABORATORY SERVICES

Final FY10 Current Expense Budget LABORATORY SERVICES							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 3,573,983	\$ 3,691,792	\$ 3,853,465	\$ 4,062,822	\$ 209,357	5.4%	
OVERTIME	52,746	73,240	51,864	93,044	41,180	79.4%	
FRINGE BENEFITS	486	808	387	1,200	813	210.1%	
UTILITIES	152,032	20,444	20,329	27,652	7,323	36.0%	
ONGOING MAINTENANCE	435,303	200,812	209,999	327,385	117,386	55.9%	
TRAINING & MEETINGS	1,029	4,381	832	2,000	1,168	140.4%	
PROFESSIONAL SERVICES	79,639	181,003	112,729	97,248	(15,481)	-13.7%	
OTHER MATERIALS	866,336	764,766	762,158	771,546	9,388	1.2%	
OTHER SERVICES	83,002	103,211	82,440	103,232	20,792	25.2%	
TOTAL	\$ 5,244,556	\$ 5,040,457	\$ 5,094,203	\$ 5,486,129	\$ 391,926	7.7%	

The **Department of Laboratory Services (DLS)** goals are to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation and the MWRA member water and wastewater communities. This includes timely and cost-effective laboratory tests to meet the strict testing guidelines required by all regulatory programs and permits, including the Safe Drinking Water Act (SDWA), Clean Water Act, and NPDES permits. The Department supports these functions at five locations: Chelsea, Southborough, Quabbin, the Central Laboratory at Deer Island, and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and control at Deer Island and Clinton, NPDES compliance, Massachusetts Bay outfall monitoring, TRAC, and wastewater residuals. DLS also conducts the Boston Harbor monitoring program, which involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results and regularly prepare compliance reports for submission to the Environmental Protection Agency and the Massachusetts Department of Environmental Protection.

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity. In January 2004, MWRA brought most of the laboratory testing for the Harbor and Outfall Monitoring (HOM) in-house including the water column laboratory work and the monthly boat sampling of Massachusetts Bay to collect bacteria samples. In July 2004, MWRA brought laboratory testing of Quabbin and Wachusett Reservoirs and their tributaries for the Department of Conservation and Recreation in-house, including operation of the Quabbin Laboratory. In FY09 and FY10, management expects to continue this trend by bringing in-house the Fish and Shellfish testing for Massachusetts Bay.

Budget Highlights:

- \$4.1 million or 74% of the FY10 CEB is for **Wages and Salaries**, of which \$3.8 million is regular pay for 53 positions. The FY10 CEB also includes \$185,000 for up to five temporary employee positions primarily to cover peak workload and Harbor and Outfall Monitoring and Carroll Water Treatment Plant special testing. The temporary employees will also help cover workload during implementation of the Laboratory Information Management System (LIMS) in FY10.
- \$28,000 is for **Utilities**, which consists of gases and cryogenic liquids used for various lab instruments. As of FY08, the budget for the Laboratory's diesel fuel and electricity is included in the DITP's budget versus in the Laboratory budget because the Lab shares a building with the Deer Island Plant.

- \$327,000 is for **Maintenance** which includes \$90,000 for Laboratory modifications, \$213,000 for equipment service contracts and \$10,000 for HVAC services to annually certify the fume hoods.
- The **Professional Services** budget of \$97,000 (a decrease of 13.7%) covers lab and testing analysis services. Decreased spending is due to in-house testing for fats, oils, and grease (FOG). The Lab contracts out a variety of complex and/or low volume tests. Outside labs are used for emergencies, “second opinions”, capacity constraints, and unavailability of specialized equipment or economic justification.
- \$772,000 is for **Other Materials** including \$545,000 for laboratory supplies and \$175,000 for replacement of obsolete or older equipment. As part of broader cost curtailment efforts, this department will defer replacement of two laboratory instruments (totaling \$100,000) to future years.
- \$103,000 for **Other Services** primarily covers boat rental service on an as-needed basis, boat dockage for two boats, and courier service for shipping samples between laboratories (reduced as FOG samples are now tested in-house) and removing hazardous waste.

ENVIRONMENTAL QUALITY

Final FY10 Current Expense Budget ENVIRONMENTAL QUALITY							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 1,233,001	\$ 1,328,722	\$ 1,371,796	\$ 1,392,875	\$ 21,079		1.5%
OVERTIME	3,281	3,044	2,400	3,430	1,030		42.9%
FRINGE BENEFITS	-	-	-	-	-		-
ONGOING MAINTENANCE	1,639	23	951	-	(951)		-100.0%
TRAINING & MEETINGS	2,585	5,804	1,668	1,000	(668)		-40.0%
PROFESSIONAL SERVICES	2,840,422	2,692,210	2,418,808	2,099,160	(319,648)		-13.2%
OTHER MATERIALS	977	3,047	4,002	5,130	1,128		28.2%
OTHER SERVICES	2,864	119,450	6,293	9,229	2,936		46.7%
TOTAL	\$ 4,084,769	\$ 4,152,300	\$ 3,805,918	\$ 3,510,824	\$ (295,094)		-7.8%

The **Environmental Quality Department (ENQUAD)** reports on environmental findings that may be linked to MWRA operations and projects. The department's main activities are monitoring sewage influent and effluent quality; monitoring the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; managing data and entering quality data; and complying with the reporting requirements of MWRA's NPDES permits. MWRA submits these permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, MWRA posts many of these reports on its web site. All technical reports and several reports on water quality in the harbor and the bay are also posted on the web site. The department also periodically produces the printed State of Boston Harbor Report.

Budget Highlights:

- \$1.4 million or 40% of the FY10 CEB is for **Wages and Salaries** for 17 positions, the same level as in FY09.
- \$2.1 million or 60% of the FY10 CEB is for **Professional Services** for outside laboratory testing and analysis. The budget provides total funding of \$1.9 million for the Harbor and Outfall Monitoring (HOM) Program. This includes \$1.5 million for the HOM6 contract, which will be completed through contracts with two vendors (Battelle and AECOM Marine and Coastal Center) and \$0.4 million for HOM7. The balance of the funds covers the following:
 - o Cost-sharing contract with the National Oceanic and Atmospheric Administration's National Data Buoy Center for required continuous monitoring
 - o MA Bay Eutrophication Model
 - o chlorophyll and algae monitoring
 - o membership in the Gulf of Maine Ocean Observation System monitoring program and
 - o biotoxicity testing for Clinton WWTP, CSO facilities, and the Deer Island Treatment Plant.

ENGINEERING AND CONSTRUCTION

Final FY10 Current Expense Budget ENGINEERING AND CONSTRUCTION							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 7,597,332	\$ 7,915,000	\$ 7,840,735	\$ 8,087,657	\$ 246,922		3.1%
OVERTIME	63,295	128,337	77,998	135,441	57,443		73.6%
FRINGE BENEFITS	512	721	193	750	557		288.6%
ONGOING MAINTENANCE	5,893	8,515	12,583	10,285	(2,298)		-18.3%
TRAINING & MEETINGS	11,911	31,778	13,110	8,400	(4,710)		-35.9%
PROFESSIONAL SERVICES	(750)	889	300	-	(300)		-100.0%
OTHER MATERIALS	127,780	124,318	127,861	117,824	(10,037)		-7.8%
OTHER SERVICES	43,817	40,147	24,961	25,500	539		2.2%
TOTAL	\$ 7,849,790	\$ 8,249,705	\$ 8,097,741	\$ 8,385,857	\$ 288,116		3.6%

The **Engineering and Construction Department (ECD)** manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The Wastewater Engineering Unit manages all wastewater design and engineering projects including CSO engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) and services. The Water Engineering Unit manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The Construction Unit provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island.

Budget Highlights:

- \$8.1 million for **Wages and Salaries** represents 96.4% of the FY10 CEB and includes funding for 89.5 positions (includes vacancy adjustment).
- \$135,000 for **Overtime**, \$62,000 to cover resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings and meeting deadlines. For FY10, an additional \$73,000 is included to provide weekend resident inspection services for the East Boston micro-tunneling project.
- \$10,000 for **Maintenance** which covers service contracts for the DISC Unit's specialized printers and plotters.
- \$118,000 for **Other Materials**, which includes \$98,000 for vehicle expense for staff traveling to construction sites, \$11,000 for office supplies and \$5,000 for work clothes.
- \$26,000 for **Other Services** which includes \$6,000 for memberships and dues, \$10,000 for printing of in-house design plans and specifications, \$7,000 for cell phones, and \$1,500 for police details.



Law Division
Budget

LAW DIVISION

Final FY10 Current Expense Budget LAW DIVISION by Line Item							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 1,649,990	\$ 1,687,100	\$ 1,657,976	\$ 1,686,516	\$ 28,540		1.7%
OVERTIME	40	1	-	-	-		-
TRAINING & MEETINGS	2,788	2,344	570	2,000	1,430		250.9%
PROFESSIONAL SERVICES	150,409	99,340	126,256	151,000	24,744		19.6%
OTHER MATERIALS	7,347	9,021	7,952	9,314	1,362		17.1%
OTHER SERVICES	29,779	26,334	22,294	32,147	9,853		44.2%
TOTAL	\$ 1,840,353	\$ 1,824,140	\$ 1,815,048	\$ 1,880,977	\$ 65,929		3.6%

The Law Division provides legal counsel to the Board of Directors, the Executive Director and staff on compliance with federal and state laws, regulations, court cases and administrative orders. Staff also handle and provide assistance with respect to litigation matters, real estate matters, labor/employment issues, and procurement and construction issues. The General Counsel interprets the MWRA Enabling Act and provides advice on conflict of interest and Code of Conduct issues. Division attorneys monitor the work of outside counsel when it is necessary to retain such services. The budget for the Division accounts for less than 1% of MWRA's FY09 direct expense budget.

Law Division staff, though usually representing MWRA in a defensive posture, also work with Operations Division staff to effectuate cost recovery claims for design errors and omissions by MWRA design professionals. In addition, the Law Division assists in the early resolution of contractor and vendor claims prior to litigation so as to resolve them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

Law Division goals include:

- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- High quality legal services to support the business and operational needs of MWRA in the areas of real estate, labor and employment, regulatory compliance, litigation, construction and business law.
- Advocacy of MWRA interests in new and developing regulatory issues.

Budget Highlights:

- \$1.7 million for **Wages and Salaries**, an increase of \$29,000 or 1.7% from FY09 Actual spending.
- \$151,000 for **Professional Services**, an increase of \$25,000 or 19.6 % from FY09 Actual spending based upon revised needs assessment.
- The Law Division continues to exhaust all opportunities to shift the cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.



Finance Division
Budget

FINANCE DIVISION

Final FY10 Current Expense Budget FINANCE DIVISION by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 2,920,430	\$ 3,031,855	\$ 3,244,173	\$ 3,344,029	\$ 99,856	3.1%
OVERTIME	486	38	197	-	(197)	-100.0%
TRAINING & MEETINGS	2,650	912	458	2,344	1,886	411.8%
PROFESSIONAL SERVICES	129,633	550,775	455,062	432,533	(22,529)	-5.0%
OTHER MATERIALS	8,547	6,597	6,091	6,000	(91)	-1.5%
OTHER SERVICES	17,768	32,458	14,746	17,677	2,931	19.9%
TOTAL	\$ 3,079,514	\$ 3,622,635	\$ 3,720,727	\$ 3,802,583	\$ 81,856	2.2%

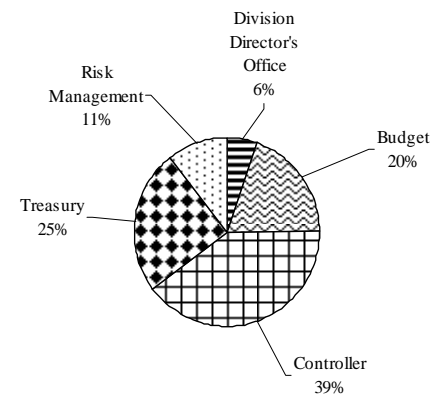
Final FY10 Current Expense Budget FINANCE DIVISION by Department						
DEPARTMENT	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
DIVISION DIRECTOR'S OFFICE	\$ 213,438	\$ 195,349	\$ 204,015	\$ 198,603	\$ (5,412)	-2.7%
PLANNING/COORDINATION	110	-	-	-	-	-
BUDGET	680,218	658,072	698,083	744,308	46,225	6.6%
TREASURY	502,745	1,040,754	986,388	943,194	(43,194)	-4.4%
CONTROLLER	1,393,264	1,425,457	1,488,205	1,513,082	24,877	1.7%
RISK MANAGEMENT	289,739	303,003	344,036	403,396	59,360	17.3%
TOTAL	\$ 3,079,514	\$ 3,622,635	\$ 3,720,727	\$ 3,802,583	\$ 81,856	2.2%

The **Finance Division** is responsible for overseeing rates and revenue management, budgeting, capital financing, accounting, disbursements, investments, insurance, grant and loan management and the processing and resolution of insurance claims. The Finance Division is comprised of four independent but related functions. These are Budget, Controller, Risk Management, and Treasury. The Finance Division performs critical financial support functions that ensure the daily operations of the Authority and improvements to its capital assets, including: timely and accurate processing of payments for goods and services, annual issuance of debt to fund essential capital projects, weekly distribution of payroll, and regular reporting on expenditures to MWRA management, the Advisory Board, and the Board of Directors. The Finance Division is also responsible for developing and implementing forward thinking, long-range investment and budget strategies that ensure adequate funding for capital projects and on-going operations while mitigating financial impact to ratepayers and ensuring the Authority's strong bond rating.

The Final FY10 Budget for the Finance Division accounts for less than 2% of MWRA's direct expense budget.

Finance Division Goals:

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide financial planning, control, and accountability for MWRA.
- Ensure effective, coordinated operating and capital budget planning



throughout MWRA.

FY09 Accomplishments

- Treasury continued to manage through unprecedented events in the financial markets. The bankruptcy of Lehman Brothers and the exiting of UBS Securities from the municipal marketplace required the development of new business partnerships to replace Lehman and UBS. With these new banking relationships, Treasury has increased MWRA's diversity and reduced the business risk exposure to any one bank.
- Finance Division secured a credit rating upgrade from Standard and Poor's from AA to AA+ during a chaotic credit market. Ratings from Moody's Investor Service and Fitch Ratings were affirmed at Aa2 and AA respectively. Higher credit ratings are associated with lower risk by investors. The lower risk is typically reflected in lower interest rates for borrowers like MWRA.
- Provided more up-to-date financial information to the Board of Directors and external constituencies on both the Current Expense Budget and Capital Improvement Program.
- Developed an Amended FY09 CEB which identified savings to offset the loss of Debt Service Assistance without a mid-year rate increase to communities.
- Competitively bid insurance program and secured renewal program with overall reduction in program premium costs.
- Converted over two hundred employees to paperless pay stubs.
- Successfully managed budgetary spending to allow for a \$20 million defeasance in Fiscal Year 2009 with impacts in Fiscal Years 2010 and 2011.
- Generated Fiscal Year 2009 surplus of \$3.1 million which will mitigate future year Rate Revenue increases.
- The Authority took a proactive role in identifying, and applying for, wastewater, water and energy projects which may qualify for Federal stimulus funding.

FY10 Initiatives

- Assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Implementation of new computer application to support the Capital Improvement Program.
- Continue close monitoring of financial markets and take advantage of any opportunities to maximize investment income and reduce debt financing obligations.
- Continue to streamline administrative and payroll related processes.
- Maximize opportunities for the stimulus package.

DIVISION DIRECTOR'S OFFICE

Final FY10 Current Expense Budget						
FINANCE DIVISION DIRECTOR'S OFFICE by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 210,528	\$ 194,163	\$ 203,242	\$ 189,554	\$ (13,688)	-6.7%
TRAINING & MEETINGS	2,288	784	75	2,344	2,269	3025.3%
OTHER MATERIALS	171	201	465	5,170	4,705	1011.8%
OTHER SERVICES	451	201	233	1,535	1,302	558.8%
TOTAL	\$ 213,438	\$ 195,349	\$ 204,015	\$ 198,603	\$ (5,412)	-2.7%

The **Division Director's Office** oversees the centralized financial functions of rates development, revenue collection, budgeting, capital financing, accounting, disbursement and payroll processing, debt and investment management, grant and loan management, and risk management. The Director's Office ensures that all financial transactions are conducted in compliance all rules and regulations and with the Authority's policies, procedures and contract terms and that the investment of all funds are consistent with the bond resolutions and regulations. The Director's Office manages the development and implementation of financial policy to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all financial issues.

The division's continuing challenge in FY10 will be maintaining agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services. This challenge is heightened by the reduction and added uncertainty of state debt service assistance (DSA) payments which have dropped from over \$52 million in 2002 to \$0 in FY03 and FY09. For FY10, Debt Service Assistance is projected at \$350,000.

Goals:

- Guide and coordinate division activities to support MWRA and Finance Division objectives.
- Provide central and administrative support to the division's departments.
- Continuously improve processes and performance for greater efficiency.
- Employ all management strategies available to mitigate rate revenue requirements to MWRA's communities.

Budget Highlights:

- Final FY10 Budget includes \$190,000 for **Wages and Salaries**, a decrease of \$14,000 or 6.7% from the FY09 Actual due to the elimination of the Acting Administrative Manager position and the transfer of one position to Risk Management. The final budget funds two positions.

BUDGET

Final FY10 Current Expense Budget BUDGET by Line Item							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 669,306	\$ 639,818	\$ 690,967	\$ 740,878	\$ 49,911	7.2%	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	0	3563	0	0	-	-	
OTHER MATERIALS	5,409	923	589	230	(359)	-61.0%	
OTHER SERVICES	5,503	13,768	6,527	3,200	(3,327)	-51.0%	
TOTAL	\$ 680,218	\$ 658,072	\$ 698,083	\$ 744,308	\$ 46,225	6.6%	

The **Budget Department** provides the financial analysis that allows MWRA to translate its goals, and legal and financial commitments into cost-effective annual and multi-year programs and budgets. Department staff works closely with divisions' staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to schedule and budget. Staff also coordinates development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to budget throughout the year. The Budget Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and planning estimates of future rate projections.

Goals:

- Continually enhance processes and the management of resources to deliver the proposed and final Capital Improvement Program and Current Expense Budgets timely and accurately.
- Adhere to all MWRA policies, procedures and administrative practices as well as all relevant statutory and regulatory authority and accounting and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's management and staff as well as the MWRA Advisory Board.

FY09 Accomplishments:

- Provided more up-to-date financial information to the Board of Directors and external constituencies on both the Current Expense Budget and Capital Improvement Program.
- Developed an Amended FY09 CEB which identified savings to offset the loss of debt service assistance without a mid-year rate increase to communities.
- Eliminated a vacant position as a result of realigning responsibilities.
- Participated in identifying projects which may qualify for Federal stimulus funding.

FY10 Initiatives:

- Assessment and evaluation of sustainable cost savings opportunities throughout the organization
- Implementation of new computer application to support the Capital Improvement Program

- Development of staff skills for cross functionality between CIP and CEB

Budget Highlights:

- Final FY10 Budget includes \$741,000 for **Wages and Salaries**, an increase of \$50,000 or 7.2% from the FY09 Actual due to the transfer in of the Assistant Manager of Rates position from Treasury. The final budget funds eight positions.
- \$3,200 is for **Other Services**, a decrease of \$3,000 or 51.0% from the FY09 Actual, due to the elimination of funds for forecasting services from Global Insight for inflation projections as well as a reduction in funds to cover the cost of printing a limited number of budget documents and reports.

CONTROLLER

Final FY10 Current Expense Budget CONTROLLER by Line Item							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 1,176,542	\$ 1,227,866	\$ 1,285,844	\$ 1,321,152	\$ 35,308		2.7%
OVERTIME	-	-	-	-	-		-
TRAINING & MEETINGS	313	-	350	-	(350)		-100.0%
PROFESSIONAL SERVICES	215,500	195,500	198,124	189,000	(9,124)		-4.6%
OTHER MATERIALS	629	596	2,809	300	(2,509)		-89.3%
OTHER SERVICES	280	1,495	1,078	2,630	1,552		144.0%
TOTAL	\$ 1,393,264	\$ 1,425,457	\$ 1,488,205	\$ 1,513,082	\$ 24,877		1.7%

The **Controller Department** consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA's assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

Goals:

- Implement process efficiencies in all department units.
- Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.

FY09 Accomplishments:

- Converted over five hundred employees to paperless pay stubs.
- Negotiated extension of professional services contract without increase in annual fee.

FY10 Initiatives:

- Enact paperless processes for payroll pay stubs and time sheets.
- Pay employee reimbursements through direct deposit.

Budget Highlights:

- \$1.3 million for **Wages and Salaries**, an increase of \$35,000 or 2.7% from the FY09 Actual is due to the reinstatement of the Accounting Manager position from an Acting Controller position. The final budget funds 18 positions, one less than FY09.
- \$189,000 for **Professional Services**, a decrease of \$9,000 or 4.6% from the FY09 Actual. The Final FY10 Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

RISK MANAGEMENT

Final FY10 Current Expense Budget RISK MANAGEMENT by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 266,119	\$ 277,312	\$ 315,369	\$ 357,946	\$ 42,577	13.5%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	23,261	25,178	28,145	45,000	16,855	59.9%
OTHER MATERIALS	59	63	53	-	(53)	-100.0%
OTHER SERVICES	300	450	469	450	(19)	-4.1%
TOTAL	\$ 289,739	\$ 303,003	\$ 344,036	\$ 403,396	\$ 59,360	17.3%

The **Risk Management Department** formerly included in Treasury was established as a stand alone department during FY06.

The department is responsible for all MWRA insurance and risk management functions and reports to the Finance Division Director. Department staff manage all administrative functions relating to the initial reporting, processing and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff are responsible for annual procurement, renewals and maintenance of all Authority-wide insurance policies and programs and also for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serves as a liaison to insurance industry participants including brokers, insurers, insurance consultants, attorneys and all MWRA departments.

Goals:

- Process self-insured automobile, general liability, property damage and construction contract claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by establishing insurance requirements and monitoring compliance.

Budget Highlights:

- Final FY10 Budget is \$403,000 of which \$358,000 is for **Wages & Salaries**. The final budget funds four positions, one more than the FY09 Budget due to the transfer of the Risk Management Coordinator position from the Director's Office.
- \$45,000 for **Professional Services** includes funds for an insurance consultant, an increase of \$17,000 or 59.9% from the FY09 Actual.

TREASURY

Final FY10 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 597,935	\$ 692,696	\$ 748,751	\$ 734,499	\$ (14,252)	-1.9%
OVERTIME	486	38	197	-	(197)	-100.0%
ONGOING MAINTENANCE	-	85	-	-	-	-
TRAINING & MEETINGS	50	128	33	-	(33)	-100.0%
PROFESSIONAL SERVICES	(109,130)	326,450	228,793	198,533	(30,260)	-13.2%
OTHER MATERIALS	2,170	4,813	2,175	300	(1,875)	-86.2%
OTHER SERVICES	11,234	16,544	6,439	9,862	3,423	53.2%
TOTAL	\$ 502,745	\$ 1,040,754	\$ 986,388	\$ 943,194	\$ (43,194)	-4.4%

The **Treasury Department** secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collects revenue, disburses funds, and manages grant and loan programs in addition to debt issuance and investments.

Goals:

- Manage MWRA's debt portfolio to achieve sustainable and predictable rate increases.
- Maximize investment return while maintaining compliance with the General Revenue Bond Resolution, security and liquidity.

FY09 Accomplishments:

- Treasury continued to manage through unprecedented events in the financial markets. The bankruptcy of Lehman Brothers and the exiting of UBS Securities from the municipal marketplace required the development of new business partnerships to replace Lehman and UBS. With these new banking relationships, Treasury has increased MWRA's diversity and reduced the business risk exposure to any one bank.
- Finance Division secured a credit rating upgrade from Standard and Poor's from AA to AA+ during a chaotic credit market. Ratings from Moody's Investor Service and Fitch Ratings were affirmed at Aa2 and AA respectively. Higher credit ratings are associated with lower risk by investors. The lower risk is typically reflected in lower interest rates for borrowers like MWRA.
- The Authority took a proactive role in identifying, and applying for, wastewater, water and energy projects which may qualify for Federal stimulus funding.

Budget Highlights:

- \$734,000 for **Wages and Salaries**, a decrease of \$14,000 or 1.9% from the FY09 Actual. The final budget funds ten positions, one more than the FY09 Budget due to the hiring of two Financial Planner positions and the transfer out of the Assistant Manager of Rates position to the Rates and Budget Department.
- \$199,000 for **Professional Services**, a decrease of \$30,000 or 13.2% from FY09 Actual spending. The final budget includes funds for trustee services and arbitrage consulting services.



Support Services Division
Budget

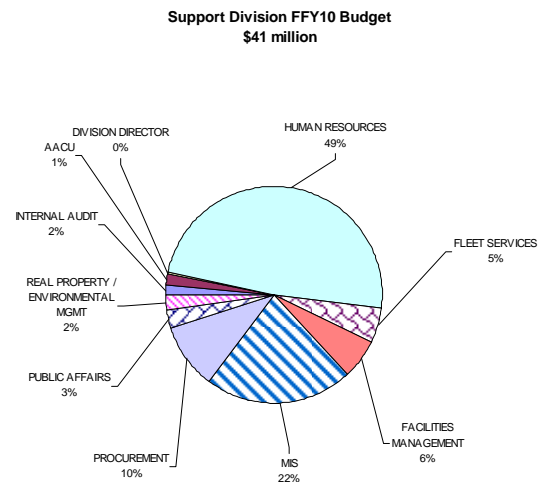
SUPPORT SERVICES DIVISION

Final FY10 Current Expense Budget SUPPORT DIVISION by Line Item						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 13,671,269	\$ 14,236,309	\$ 14,447,539	\$ 14,910,263	\$ 462,724	3.2%
OVERTIME	93,209	74,730	57,690	58,479	789	1.4%
FRINGE BENEFITS	15,043,560	15,520,254	16,527,910	16,508,832	(19,078)	-0.1%
WORKERS' COMPENSATION	1,235,814	1,159,464	1,841,638	1,325,000	(516,638)	-28.1%
UTILITIES	351,321	206,427	134,173	167,629	33,456	24.9%
ONGOING MAINTENANCE	3,522,714	4,226,440	3,993,090	3,245,943	(747,147)	-18.7%
TRAINING & MEETINGS	55,459	52,369	39,417	49,924	10,507	26.7%
PROFESSIONAL SERVICES	349,285	439,462	325,197	409,101	83,904	25.8%
OTHER MATERIALS	1,190,744	1,205,556	1,130,472	1,429,520	299,048	26.5%
OTHER SERVICES	2,810,354	2,726,711	2,976,308	2,986,587	10,279	0.3%
TOTAL	\$ 38,323,729	\$ 39,847,722	\$ 41,473,434	\$ 41,091,278	\$ (382,156)	-0.9%

Final FY10 Current Expense Budget SUPPORT DIVISION by Department						
DEPARTMENT	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
DIVISION DIRECTOR	\$ 223,882	\$ 230,558	\$ 238,307	\$ 192,279	\$ (46,028)	-19.3%
INTERNAL AUDIT	550,914	583,624	587,516	616,740	29,224	5.0%
PUBLIC AFFAIRS	1,219,402	1,272,500	1,117,615	1,250,527	132,912	11.9%
FACILITIES MANAGEMENT	2,835,484	2,279,899	2,514,224	2,362,949	(151,275)	-6.0%
FLEET SERVICES	1,596,618	1,918,209	1,883,704	2,130,461	246,757	13.1%
AACU	555,273	574,779	593,677	610,935	17,258	2.9%
HUMAN RESOURCES	18,143,093	18,678,844	20,372,112	19,943,186	(428,926)	-2.1%
MIS	8,727,087	8,940,973	9,059,021	9,220,972	161,951	1.8%
PROCUREMENT	3,841,264	4,621,381	4,415,886	3,905,430	(510,456)	-11.6%
REAL PROPERTY / ENVIRONMENTAL MGMT	630,712	746,955	691,372	857,799	166,427	24.1%
TOTAL	\$ 38,323,729	\$ 39,847,722	\$ 41,473,434	\$ 41,091,278	\$ (382,156)	-0.9%

The **Support Services Division** oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials warehousing, occupational health and safety, internal audit, fleet services, computer system development and management, library and records management, and mail and employee shuttle services. The division also manages the Charlestown Navy Yard headquarters.

The division budget includes ten departments: Division Director, Internal Audit, Public Affairs, Facilities Management, Fleet Services, Affirmative Action and Compliance Unit (AACU), Human Resources, Management Information Systems (MIS), Procurement, and Real Property and Environmental Management (RPEM). Internal Audit, Public Affairs, and AACU, funded as part of the Support Services budget, report to the MWRA's Executive Director. The \$41 million FY10 Budget accounts for 19.6% of MWRA's direct expense budget. The division budget includes \$16.5 million for fringe benefits for all MWRA personnel; \$1.6 million for lease, taxes insurance, and operating and maintenance costs for the Charlestown Navy Yard (CNY) headquarters; and \$1.3 million for workers' compensation claims and medical expenses. Net of these agency-wide expenses, the Support Services Division budget accounts for 10.3% of direct expenses.



DIVISION DIRECTOR

Final FY10 Current Expense Budget						
DIVISION DIRECTOR						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 222,590	\$ 230,097	\$ 237,544	\$ 190,925	\$ (46,619)	-19.6%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	221	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	-	-	-
OTHER MATERIALS	368	67	-	450	450	-
OTHER SERVICES	703	394	763	904	141	18.5%
TOTAL	\$ 223,882	\$ 230,558	\$ 238,307	\$ 192,279	\$ (46,028)	-19.3%

The **Division Director Department** consists of management and administrative staff.

The goals of the Division Director's Department are to:

- Provide comprehensive administrative, professional and technical support services to all divisions to create a cooperative framework within which MWRA can operate effectively.
- Ensure proper and effective communication between MWRA and the communities served, other agencies, and state and local officials.

Budget Highlights:

- The Final FY10 Budget of \$192,000 is a decrease of \$46,000 or 19.3% as compared to the FY09 actual spending. This decrease is due to adjustments to the Wages & Salaries line in support of the new headcount target.

INTERNAL AUDIT

Final FY10 Current Expense Budget INTERNAL AUDIT							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 539,094	\$ 569,213	\$ 581,055	\$ 605,304	\$ 24,249		4.2%
TRAINING & MEETINGS	9,118	10,092	3,306	7,738	4,432		134.1%
OTHER MATERIALS	2,217	2,501	2,050	2,400	350		17.1%
OTHER SERVICES	485	1,818	1,105	1,298	193		17.5%
TOTAL	\$ 550,914	\$ 583,624	\$ 587,516	\$ 616,740	\$ 29,224		5.0%

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws and regulations; and coordinating the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor audits. Internal Audit reports to the MWRA's Executive Director.

The Internal Audit Department's goals are to:

- Encourage more economical and efficient operations, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

FY09 Accomplishments:

- Identified \$2,016,748 in savings related to preliminary consultant reviews \$93,139, incurred cost audits \$223,494, construction labor burden reviews \$87,444, construction claims \$525,691, other contractor and vendor assignments \$648,953, and internal audits and management advisory services \$438,027.
- Issued final audit reports on the Local Pipeline Assistance and Infiltration/Inflow Community Assistance Programs, Buyer Practices and completed seven incurred cost assignments, 13 preliminary construction reviews, four vendor audits and a true-up of CY2007 BWSC CSO billings.

Budget Highlights:

- Total Final FY10 Budget of \$617,000, an increase of \$29,000 or 5% over the FY09 Actual, for staff to perform internal audits, management advisory services, preliminary review and incurred cost audits, and consultant disclosure statement reviews.
- \$605,000 for **Wages and Salaries**, an increase of \$24,000 or 4.2% over the FY09 Actual, primarily due to contractual increases in wages and salaries. The final budget includes funding for six full time and two part-time positions.
- \$7,700 for **Training and Meetings**, an increase of \$4,000 over the FY09 Actual, of which 32% is for travel to consultant offices to perform incurred cost audits of billings for design and engineering services.

PUBLIC AFFAIRS

Final FY10 Current Expense Budget PUBLIC AFFAIRS							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 1,148,137	\$ 1,207,344	\$ 1,024,857	\$ 1,158,781	\$ 133,924	13.1%	
OVERTIME	-	128	-	-	-	-	
TRAINING & MEETINGS	1,045	2,409	1,747	315	(1,432)	-82.0%	
PROFESSIONAL SERVICES	1,683	1,113	1,630	1,050	(580)	-35.6%	
OTHER MATERIALS	15,432	26,672	37,585	20,550	(17,035)	-45.3%	
OTHER SERVICES	53,105	34,834	51,796	69,831	18,035	34.8%	
TOTAL	\$ 1,219,402	\$ 1,272,500	\$ 1,117,615	\$ 1,250,527	\$ 132,912	11.9%	

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The **Intergovernmental Affairs Section** works for passage of legislation necessary to carry out MWRA’s mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects. The **Community Relations Section** deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work in conjunction with Planning and Coordination Department staff to ensure compliance with state and local regulations and restrictions. The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA. The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing to all grade levels school education materials on water quality, water conservation, wastewater topics, and environmental issues. Public Affairs reports to the Executive Director.

The goals of the Public Affairs Department are to:

- Enhance overall public understanding of MWRA’s mission, goals, and benefits to the public through extensive outreach and effective communication.
- Develop and implement proactive strategies for educating and informing key MWRA constituencies and the public at large about MWRA’s mission, projects and progress, and promote understanding for associated costs.
- Gain public support for MWRA programs and projects, and respond to the needs and concerns of elected and appointed public officials.
- Provide support to MWRA staff to ensure that MWRA projects meet regulatory requirements, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

Budget Highlights:

- Total Final FY10 Budget of \$1.3 million, an increase of \$133,000 or 12.0% over the FY09 Actual.
- \$1.2 million for **Wages and Salaries**, an increase of \$134,000 or 13% over the FY09 Actual, primarily due to personnel related cost for vacant positions and contractual increases in wages and salaries. The final budget supports 14 positions.
- \$90,000 for **Other Materials** and **Other Services**, an increase of \$1,000 over from FY09 Actual, includes funds associated with the publication of MWRA's Annual Report and 5-Year Progress Report, production of materials to inform the public about MWRA activities and to educate school children, teachers and environmental organizations about the importance of MWRA's programs to public health and the environment.

FACILITIES MANAGEMENT

Final FY10 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 370,907	\$ 393,292	\$ 391,067	\$ 321,507	\$ (69,560)	-17.8%
OVERTIME	30,320	25,261	21,347	23,000	1,653	7.7%
FRINGE BENEFITS	126	303	301	-	(301)	-100.0%
UTILITIES	349,874	203,715	132,126	164,629	32,503	24.6%
ONGOING MAINTENANCE	86,715	25,602	15,549	39,400	23,851	153.4%
TRAINING & MEETINGS	-	-	67	-	(67)	(1)
PROFESSIONAL SERVICES	(1)	-	-	-	-	-
OTHER MATERIALS	87,935	135,569	108,177	116,233	8,056	7.4%
OTHER SERVICES	1,909,608	1,496,157	1,845,590	1,698,180	(147,410)	-8.0%
TOTAL	\$ 2,835,484	\$ 2,279,899	\$ 2,514,224	\$ 2,362,949	\$ (151,275)	-6.0%

Final FY10 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
FRSA	\$ 217,333	\$ 70,618	\$ -	\$ -	\$ -	-
FACILITIES MANAGEMENT	2,216,599	1,792,100	2,097,649	2,015,334	(82,315)	-3.9%
ADMINISTRATIVE SERVICES	401,552	417,181	416,575	347,615	(68,960)	-16.6%
TOTAL	\$ 2,835,484	\$ 2,279,899	\$ 2,514,224	\$ 2,362,949	\$ (151,275)	-6.0%

The Facilities Management Department provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. Staff institute maintenance procedures, respond to facilities requests from building occupants, coordinate workspace planning, provide office furnishings, and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

In addition, staff provides administrative and office support services that facilitate efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, copying and printing services, general office equipment repairs, transportation, mail and courier services, and receptionist coverage at CNY.

The goals of the Facilities Management Department are to:

- Provide a safe and well-maintained working environment for all MWRA staff at CNY and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the CNY facilities to prevent loss or deterioration of MWRA assets.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

FY09 Accomplishments

- Supported energy reduction efforts by installing devices such as timers and motion sensors for lighting in shared areas.
- Initiated an energy audit at CNY Headquarters that will continue into FY10.
- Work with the landlord to implement facility improvements as provided in our lease contract. Improvements included bathroom and kitchen updates.
- Worked with departments to implement savings in our mail program by utilizing the most efficient shipping methods for large mailings in order to offset rising postal and shipping rates.

Budget Highlights:

- The FY10 Budget of \$2.4 million is a decrease of \$151,000 or 6.0% as compared to FY09 actual spending.
- \$322,000 for **Wages and Salaries**, a decrease of \$70,000 or 17.8% from FY09 actual spending. The budget supports six positions.
- \$23,000 for **Overtime** for coverage of facility maintenance and support services, an increase of \$1,700 or 7.7% as compared to FY09 actual spending.
- \$165,000 for **Utilities**, an increase of \$33,000 or 24.6% as compared to FY09 actual spending.
- \$39,000 for **Ongoing Maintenance** reflects an increase of \$24,000 as compared to FY09 actual spending. This line item includes funding for facility and equipment maintenance and services including HVAC, plumbing and electrical services.
- \$116,000 for **Other Materials**, an increase of \$8,000 or 7.4% as compared to FY09 actual spending.
- \$1.7 million for **Other Services**, a decrease of \$147,000 or 8.0%, as compared to FY09 actual spending. This includes rental and operating costs for CNY headquarters facility.

FLEET SERVICES

Final FY10 Current Expense Budget FLEET SERVICES							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 650,257	\$ 658,619	\$ 682,909	\$ 736,170	\$ 53,261	7.8%	
OVERTIME	13,774	18,773	19,718	17,800	(1,918)	-9.7%	
FRINGE BENEFITS	598	911	401	1,000	599	149.4%	
UTILITIES	1,331	2,316	1,857	3,000	1,143	61.6%	
ONGOING MAINTENANCE	666,280	703,892	724,540	743,750	19,210	2.7%	
TRAINING & MEETINGS	-	-	-	-	-	-	
OTHER MATERIALS	462,616	530,164	451,210	624,202	172,992	38.34%	
OTHER SERVICES	(198,238)	3,534	3,069	4,539	1,470	47.9%	
TOTAL	\$ 1,596,618	\$ 1,918,209	\$ 1,883,704	\$ 2,130,461	\$ 246,757	13.1%	

Fleet Services manages and maintains MWRA's motor vehicle and equipment fleet. The goal of the Fleet Services Department is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets. Fleet Services also manages the Chelsea fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

FY09 Accomplishments

- Developed specifications for 20 new replacement vehicles or pieces of equipment. Nine (9) of these units are alternative fuel or hybrid models, consistent with the Authority's goal of purchasing environmentally friendly products. One emergency service vehicle was outfitted with equipment as part of a grant from the Department of Homeland Security.
- As part of the Authority's environmental goals, 11 large diesel powered units were retrofitted with Diesel Oxidation Catalyst (DOC) devices which reduce greenhouse gas emissions.
- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition. The Authority continues to fuel diesel powered vehicle/equipment with bio-diesel.
- Prepared the documentation for the surplus sale of 104 vehicles and equipment and worked with the procurement department for the auction and disposal of the vehicles.
- Continued to work with MIS staff on the design and implementation of a Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Development and implementation of Federal Communications Commission (FCC) mandated frequency re-banding project with Motorola and Nextel is underway.

Budget Highlights:

- The FY10 Budget of \$2.1 million reflects an increase of \$247,000 or 13.1% as compared to FY09 actual spending.
- \$736,000 for **Wages & Salaries**, an increase of \$53,000 or 7.8% as compared to FY09 actuals supports 12 positions. The increase is attributed to contractual increases and the hiring of a Motor Equipment Repairman during FY09.

- **Ongoing Maintenance** budget of \$744,000, an increase of \$19,000 or 2.7% as compared to FY09 actual spending. The budget includes funds for automotive materials & services to maintain MWRA's vehicle fleet.
- \$624,000 for **Other Materials** is an increase of \$173,000 as compared to FY09 actual spending. The FY10 Budget includes funds for vehicle/equipment fueling which are based on FY08 and FY09 fuel usage and recent fuel costs. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives.

AFFIRMATIVE ACTION and COMPLIANCE

Final FY10 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 552,953	\$ 569,845	\$ 591,924	\$ 604,769	\$ 12,845		2.2%
OVERTIME	-	-	-	-	-		-
TRAINING & MEETINGS	1	2,384	180	3,360	3,180		1766.7%
OTHER MATERIALS	2,119	2,079	1,176	2,174	998		84.9%
OTHER SERVICES	200	471	397	632	235		59.2%
TOTAL	\$ 555,273	\$ 574,779	\$ 593,677	\$ 610,935	\$ 17,258		2.9%

The **Affirmative Action and Compliance Unit (AACU)** develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority procurement activities.

The goals of the Affirmative Action and Compliance Unit are to:

- Assist divisions and departments in the implementation of MWRA’s affirmative action program and promote MWRA’s policy of non-discrimination for all persons in or recruited into its work force.
- Maintain internal audit and reporting systems adequate to monitor MWRA’s accomplishments of goal attainment in identified underutilized job groups for minorities and female representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Provide for the equitable participation of minority and women-owned businesses in procurement opportunities and ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE program policies and practices and monitor and report on contractor compliance and expenditures.

Budget Highlights:

- Total Final FY10 Budget is \$611,000 of which \$605,000 is for **Wages and Salaries**. The wages and salaries line is \$13,000 more than the FY09 Actual, primarily due to contractual increases for wages. The final budget includes funding for eight positions.

HUMAN RESOURCES

Final FY10 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 1,484,995	\$ 1,521,409	\$ 1,640,764	\$ 1,664,783	\$ 24,019	1.5%
OVERTIME	69	607	298	-	(298)	-100.0%
FRINGE BENEFITS	15,042,497	15,518,599	16,526,977	16,507,832	(19,145)	-0.1%
WORKERS' COMPENSATION	1,235,814	1,159,464	1,841,638	1,325,000	(516,638)	-28.1%
ONGOING MAINTENANCE	28	6	-	-	-	-
TRAINING & MEETINGS	3,820	3,972	4,887	3,963	(924)	-18.9%
PROFESSIONAL SERVICES	347,875	438,349	323,567	407,551	83,984	26.0%
OTHER MATERIALS	25,156	16,922	13,802	18,395	4,593	33.3%
OTHER SERVICES	2,839	19,516	20,179	15,662	(4,517)	-22.4%
TOTAL	\$ 18,143,093	\$ 18,678,844	\$ 20,372,112	\$ 19,943,186	\$ (428,926)	-2.1%

Final FY10 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
EMPLOYEE/COMP/BEN	\$ 567,473	\$ 599,015	\$ 593,013	\$ 638,507	\$ 45,494	7.7%
LABOR RELATIONS	862,639	899,147	992,591	1,009,013	16,422	1.7%
TRAINING	387,848	469,511	389,848	424,603	34,755	8.9%
CENTRALIZED FRINGE BENEFITS	16,325,133	16,711,171	18,396,660	17,871,063	(525,597)	-2.9%
TOTAL	\$ 18,143,093	\$ 18,678,844	\$ 20,372,112	\$ 19,943,186	\$ (428,926)	-2.1%

The **Human Resources Department** is comprised of the following three units:

The **Employment, Compensation, Benefits and HRIS Unit** coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers and promotions to meet the business needs of MWRA; develops and coordinates MWRA compensation and benefits strategies and programs; and ensures the proper processing and recording of personnel actions. The compensation function also ensures that all MWRA employees possess the necessary licenses and certifications required by their positions. The **Labor Relations Unit** is responsible for fulfilling MWRA's collective bargaining and contract administration obligations under Massachusetts' public sector collective bargaining law, its workers' compensation responsibilities, and its responsibilities for employee occupational safety and health. The **Training Unit** develops, coordinates, delivers, and evaluates MWRA technical and professional development training programs and other programs designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for oversight and tracking of MWRA performance evaluation programs, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the **Centralized Fringe Benefits** cost center, which includes the budgets for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

The goals of the Human Resources Department are to:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that

fosters safety consciousness and productive work, maximize the number of early returns to work by employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

FY09 Accomplishments

In FY09, the accomplishments of the Human Resources Department included:

- Successfully negotiated with trades and maintenance unions changes in staffing assignments for FOD Wastewater Operations' Operations Control Center and Headworks facilities.
- Developed and delivered the first Flagger Training Program certified by the Massachusetts Highway Department. A total of 157 employees were trained and certified as flaggers.
- Implemented a new voluntary life insurance program.
- Performed the training, testing, and data conversion activities needed to implement an upgrade to the Lawson System.
- Initiated the procurement for the MWRA Dental Program and managed the implementation of the program.
- Documented HRIS procedures for key compensation and benefits actions.
- Continued to automate and streamline human resources processes including recruitment and hiring processes.
- Successfully implemented a new injury and illness reporting system including the first submission to the State of Massachusetts summarizing work-related injuries and illnesses in 2008.
- Implemented the second round of Mechanical Certification Training.
- Delivered NFPA 701 (National Fire Protection Training) to electrical staff as the initial training course for Medium Voltage Certification Training.
- Delivered Unit 3 Supervisory training, Administrative Certification Program (ACP) training and Productivity Improvement Program (PIP) training.

FY10 Initiatives

- Negotiate and implement successor collective bargaining agreement with all five unions.
- Support the collective bargaining negotiation process with data analysis, costing analysis and wage and benefit survey data collection and analysis.
- Provide additional training for Unit 3 Supervisory, Administrative Certificate Program (ACP) and Productivity Improvement Program (PIP) training.
- Provide Harassment Prevention training for MWRA employees.
- Continue to develop a certification training program for Medium Voltage Electrical staff.
- Continue to automate and streamline human resources processes including recruitment and hiring processes.
- Implement the second round of Mechanical Certification Training.
- Develop and implement selection training for hiring managers.

Budget Highlights:

- \$1.7 million for **Wages and Salaries**, an increase of \$24,000 or 1.5% over FY09 actual spending, includes funding for 21 positions.
- \$16.5 million for **Fringe Benefits**, a decrease of \$19,000 or 0.1% as compared to FY09 actual spending. The budget includes \$14.2 million for MWRA's share of health insurance costs, \$1.2 million for MWRA's share of Medicare taxes, \$959,000 for MWRA's share of dental insurance costs and union health and welfare fund contributions, \$60,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.

- **Health insurance** budget decreased 0.1% as compared to FY09 actual spending. The FY10 budget includes the GIC health insurance cost sharing revision for FY10. Dental insurance is 6.8% higher than the FY09 actual budget due to a projected increase in dental insurance premiums. Medicare is 12.33% higher than FY09 actual budget which reflects estimated expenses of contractual salary increases in FY10. Unemployment insurance and Tuition Reimbursement for FY10 are both level funded.
- \$1.3 million for **Workers' Compensation** budget decreased \$517,000 or 28.1% as compared to FY09 actual spending. Human Resources is responsible for the management of this program as well as coordination with the third-party administrator.
- \$407,500 for **Professional Services**, an increase of \$84,000 or 26.0% over FY09 actual spending. The FY10 Budget includes \$180,000 for professional development and technical training, \$110,000 for workers' compensation claims administration, \$55,000 for arbitration expenses, \$38,000 for medical evaluation services, \$12,000 for the Employee Assistance Program, and \$12,000 for Specialized Investigation Services.

MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY10 Current Expense Budget MANAGEMENT INFORMATION SYSTEMS						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 4,983,333	\$ 5,112,092	\$ 5,072,951	\$ 5,322,344	\$ 249,393	4.9%
OVERTIME	1,112	2,207	2,704	2,679	(25)	-0.9%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	2,392,647	2,536,201	2,736,556	2,462,793	(273,763)	-10.0%
TRAINING & MEETINGS	34,522	29,046	19,403	23,823	4,420	22.8%
OTHER MATERIALS	489,177	386,998	395,277	558,538	163,261	41.3%
OTHER SERVICES	826,296	874,429	832,130	850,795	18,665	2.2%
TOTAL	\$ 8,727,087	\$ 8,940,973	\$ 9,059,021	\$ 9,220,972	\$ 161,951	1.8%

The **MIS Department** provides MWRA with the information processing capacity necessary to carry out its mission. Applications in use range from financial to operational, and enhance MWRA's ability to access data and improve internal controls, reporting, and management performance. In addition to computing systems, the department also provides library and records management services.

In FY10 MIS will continue to provide three categories of services:

- Day-to-day routine activities required for applications and systems to work. These services include preventive maintenance; replacement programs; minicomputer, server, network, and voice equipment availability; back-up and recovery; accounts payable and payroll generation; period closings; and scheduled report productions. Up-time goals based on industry norms have been established, as well as schedules for annual replacement programs. Cyber Security will continue to be a major work item in FY10.
- Responsive services are provided as a result of calls for assistance, training, troubleshooting, repair of systems or requests for materials, research, and records. A variety of performance measures have been adopted based on business impact and problem type. For example, the target response rate to close any of the aforementioned types of calls is 90% within three days, except for calls regarding system outages, the target for which is 100% within one business day. Staff also tracks backlogs, average closure rates, and rolling averages to ensure responsiveness.
- Developmental services respond to requests for new or enhanced products, services, reports, and applications. These requests are generally turned into projects with plans, defined deliverables, and agreed upon schedules. MIS-generated projects based on infrastructure limitations, and changing technology. All activities seek to balance business demands with costs and the desire to be neither leading nor lagging in the use of technology. Measurement is based on timely completion of milestones and a +/- 10% of budget and scheduled target is established for all major projects. In addition, for projects with large capital or budget requirements, a customization cap is established and reported on.

The goal of MIS is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard, Chelsea, Deer Island, Southboro, Carroll Water Treatment Plant and other remote sites, by ensuring that:

- Existing applications, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced.
- Information system development efforts are consistent with the MWRA Master Plan, reflecting management priorities.
- System security and integrity are maintained.

- Flexible tools and system capabilities are provided consistent with industry standards and norms.

Highlights of FY10 Goals:

During FY10 the MIS Department will focus on the following areas:

- Continue to explore and implement new technologies for security of desktop and mobile devices; network infrastructure, operating systems and cyber security
- Implement two new Lawson modules: Absent Management System and Lawson Business Intelligence (LBI) and enhance the Time Entry System.
- Implement “green computing” initiatives focused on server consolidations through server virtualization and SAN technology.
- Review additional Web platforms to provide infrastructure services, information, applications and business processes.
- Voice Over IP (VOIP): Explore the concept of Unified Communications – PBX migration to IP communications.

Budget Highlights:

- The FY10 Budget of \$9.2 million reflects an increase of \$162,000 or 1.8% as compared to FY09 actual spending, primarily due to changes in **Wages and Salaries, Ongoing Maintenance, Other Services and Other Materials** as described below.
- \$5.3 million for **Wages and Salaries** an increase of \$249,000 or 4.9% as compared to FY09 actual spending. The FY10 Budget includes funds for 63 positions.
- \$2.5 million for **Ongoing Maintenance** for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff. This represents a decrease of \$274,000 or 10% as compared to FY09 actual spending.
- \$851,000 for **Other Services** includes an increase of \$19,000 or 2.2% as compared to FY09 actual spending due to the inclusion of Text Messaging within the telecommunications expense.
- \$559,000 for **Other Materials** reflects an increase of \$163,000 or 41.3% as compared to FY09 actual spending primarily due to additional funding for personal computers, to meet user needs during FY10.
- \$24,000 for **Training and Meetings** reflects an increase of \$4,000 or 22.8% as compared to FY09 actual spending.

FY09 Accomplishments

- Infrastructure:
 - Network Enhancements: - Implemented new backup enhancement solutions that eliminate the need for the physical local backup at Southborough. This solution will enable the backup of planned storage growth at CWTP. Upgraded memory on the 3 core switches at Chelsea, CNY and DI and upgraded all network gigabit switches to the latest code and added a new network switch to Chelsea's Maintenance building to accommodate networking requirements.
 - Blackberry Business Continuity Solution – A new blackberry server was installed at DITP providing site failure protection for blackberry services. The previous manual solution existing only in Chelsea has been replaced by real-time data replication and process automation. This new solution improves the recovery time and reduces the probabilities of data loss.
 - Data Network Upgrade- Completed the upgrade of the wide area data network that connects 14 MWRA sites. This network redesign will take advantage of Verizon's multi path technology, which will provide monthly cost saving of 10%-15%, with an added benefit of increased network availability. As an example, this was achieved by adding a secondary network path to CNY.
 - Ruggedized laptops for the Water Pipeline Inspection group were configured for security protection (data encryption, Cyber Angel/Tracking, USB port restrictions). Arc Reader has been installed as viewer to allow user access to GIS Data such as pipe and valve information.
 - Green Computing - Researched and designed a solution for consolidation of infrastructure servers in the Chelsea data center that utilizes the latest blade technology reducing energy consumption and carbon footprint. The hardware and software were purchased and implementation of the blade server technology was completed in Q4 FY09. In addition to energy savings, the server maintenance cost savings project to be over \$40K over a five year period.
 - PC Upgrades- PCs are purchased annually under the CEB and generally are forecasted to have a useful life of approximately 5 years. In FY09 an additional 150 PC's were purchased and installed with the assistance of Hub Tech resources an HP support vendor. These PC's replaced older models with energy efficient rated PC's contributing to the green computing model.

- Applications:
 - Lawson Upgrade - December offered an opportunity to parallel test the 5th week payroll exception (occurs 4 times a year) on the new system. All payroll reports tied out with our production run. Full cycle (4 week) user parallel payroll testing is scheduled to begin in February. Completed another full test pass of the Lawson version 8 to 9 upgrade procedures that will be used to migrate live data to the new system when we go live. Completed migration, testing and revisions to nearly all MWRA customized objects. Lawson Upgrade scheduled to go-live Memorial Day weekend.
 - Developed web-based prototypes for organizational-based dissemination of management reports and data.
 - Contract Application Upgrade: MIS and Budget departments started a new project to move our current CIP budget users from Oracle Financial Analyzer (OFA) to Hyperion Pillar (Oracle's replacement application). In October the documentation for the current system was reviewed and consolidated and will be used to conduct a gap analysis.
 - LIMS: The execution of the Conference Room Pilot for the new Laboratory Information Management System (LIMS) was successfully completed. End user training for phase one (Southboro Water System Lab) was completed in February. Water Quality Data Warehouse: The newly developed data warehouse being used for accessing LabWare LIMS and old WQ3 data was tested by the Southboro Water Quality group. User Acceptance testing was successful with data from both systems being retrieved and verified as accurate.
 - PIMS (TRAC-IS Replacement): The TRAC department went live with the new Pretreatment Information Management System (PIMS) on August 18. This system replaces the legacy TRAC-IS application that has been in use since February 1992. PIMS is fully supported by the vendor,

Inflection Point Solutions and is running on a fully supported hardware platform. In addition, the new PIMS successfully executed the annual permit fees process by TRAC.

- GIS: Applied Geographics Inc. (AGI) was awarded a contract to develop an integration framework for the new Pretreatment Information Management System (PIMS) and GIS. This project is for the development of a standard web-based viewer that will be integrated with the new Pretreatment Information Management System (PIMS). This effort will be the foundation for subsequent integration projects between GIS and many of MWRA's information systems.

PROCUREMENT

Final FY10 Current Expense Budget PROCUREMENT							
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10		
WAGES & SALARIES	\$ 3,210,896	\$ 3,450,924	\$ 3,695,123	\$ 3,723,727	\$ 28,604	0.8%	
OVERTIME	47,422	27,347	13,597	15,000	1,403	10.3%	
FRINGE BENEFITS	339	441	231	-	(231)	-100.0%	
UTILITIES	117	398	189	-	(189)	-100.0%	
ONGOING MAINTENANCE	376,824	960,738	516,446	-	(516,446)	-100.0%	
TRAINING & MEETINGS	5,635	3,096	7,184	7,725	541	7.5%	
OTHER MATERIALS	103,596	103,050	118,932	84,608	(34,324)	-28.9%	
OTHER SERVICES	96,435	75,387	64,184	74,370	10,186	15.9%	
TOTAL	\$ 3,841,264	\$ 4,621,381	\$ 4,415,886	\$ 3,905,430	\$ (510,456)	-11.6%	

The **Procurement Department** includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff directs the bid, review, and selection process, and maintains a contracts database. The **Materials Management Unit** manages an Authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit manages three regional warehouses/distribution centers that support all MWRA activities.

The goals of the Procurement Department are to:

- Procure materials, equipment, supplies, and construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA policies and procedures, including those related to meeting affirmative action goals.
- Maintain centralized, efficient, cost-effective management of spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.

FY09 Accomplishments

- Competitively bid CY08 Renewable Portfolio Standard certificates which resulted in FY09 revenue of \$710,000.
- Awarded the following major contracts in FY09: design and installation of two wind turbines at Deer Island; sale of DITP Enterprise Engines; fast-track contract for the removal of PCBs at Wachusett Dam; Water Transmission Redundancy Plan; West Roxbury Tunnel Design Services; DITP Primary and Secondary Clarifier Rehabilitation; North Dorchester Bay Pumping Station and Sewers; DITP Heat Loop 3; East Boston Branch Sewer Relief Interceptor; East Boston Branch Sewer Pipebursting; and DITP Photovoltaic installation.

- Competitively procured a two year contract for the supply of electric power to Deer Island Treatment Plant commencing June 1, 2009. The supply contract will include the fixed price purchase of a base block of energy for 10 MW during peak hours and 5 MW during off peak hours with the variable load above the block purchased in the ISO-NE real time market. The contract also includes a provision to supply 25% of Deer Island's load from renewable ("green") power (National Green-e) at a fixed price. This is equivalent to providing 17% of MWRA's entire purchased electricity load from green power. In addition, MWRA continues to purchase the MA RPS requirement of an additional 4% of green power resulting in a total MWRA purchase of over 21% green power annually.
- Advertised or received bids/proposals for the following: WASM 3 Connecting Mains, Sections. 18, 50 & 51; Hultman Interconnections – CP6A; Northern Intermediate High Short-term Improvements Design; Dam Safety Modifications and Repair Design; and JCWTP UV Equipment Preselection.
- Developed with Operations contract provisions to implement Excavation and Trench Safety regulations and Road Flagger and Police Detail regulations.
- Worked across divisions to develop MWRA's federal stimulus response and compliance documents.
- Procured Authority's vehicle purchases at the beginning of Fiscal Year 2009, allowing for ample production and on-time delivery of vehicles.
- The Purchasing Unit, working with the Materials Management unit, utilized the enhanced reporting capabilities of Lawson to combine common multiple item purchases in order to create blanket contracts.
- Working with the Recycling Committee, Purchasing staff sought out environmentally friendly products, most notably recycled toners, 30% recycled copy paper and hybrid vehicles
- The Purchasing Unit worked with Internal Audit staff and the new Plumbing Supply vendor to set up the vendor's computerized invoicing system to reflect and include all % discounts and discounted unit pricing.
- The purchasing Unit analyzed the Authority's paper use and bid the new paper contract at an amount 15% less than last year.
- Purchasing Staff utilized the State Contract for fuel oil to lock in pricing on February 20, 2009 for a May delivery, at a favorable price of \$1.48 per gallon for 420,000 gallons of fuel oil for DITP.
- Recycled 84.75 tons of paper, 333.66 tons of scrap metal and 7,920 gallons of waste oil, generating \$44,870 in revenues.

Budget Highlights:

- The Final FY10 Budget of \$3.9 million represents a 0.2% increase over FY09 actual spending; includes \$3.7 million to support **Wages and Salaries** for 51 positions.
- Other Materials of \$85,000, a decrease of \$34,000 or 28.9% from FY09 actual spending. Funding mainly supports centralized office supply purchases of \$77,000.
- Other Services of \$74,000, an increase of \$10,000 or 15.9% from FY09 actual spending. Funding supports Advertising and Printing/Duplicating for contract documents and specifications.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Final FY10 Current Expense Budget						
REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY07 Actual	FY08 Actual	FY09 Actual	FY10 Final	Change FY09 to FY10	
WAGES & SALARIES	\$ 508,106	\$ 523,474	\$ 529,345	\$ 581,953	\$ 52,608	9.9%
OVERTIME	511	399	26	-	(26)	-100.0%
TRAINING & MEETINGS	1,318	1,379	2,643	3,000	357	13.5%
PROFESSIONAL SERVICES	(272)	-	-	500	500	-
OTHER MATERIALS	2,128	1,534	2,264	1,970	(294)	-13.0%
OTHER SERVICES	118,921	220,169	157,094	270,376	113,282	72.1%
TOTAL	\$ 630,712	\$ 746,955	\$ 691,372	\$ 857,799	\$ 166,427	24.1%

The Real Property and Environmental Management Department negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participate in site selection, and negotiate acquisitions or easements. In addition, staff have developed and are maintaining the Real Property database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manage environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, and air emission permits negotiation and preparation and submittal of quarterly/annual monitoring reports.

The goals of the Real Property and Environmental Management Department are to:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Manage the centralized environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects; monitor and provide assistance in maintaining environmental regulatory compliance at MWRA facilities.

FY09 Accomplishments

- Executed three new permit agreements (two at Turkey Hill and one at Walnut Hill) for a total rent revenue of \$150,000. Renegotiated one permit agreement Walnut Hill (Lexington) raising annual rate from \$30,000 each to \$50,000. Collected all outstanding permit arrears. Total revenue for the eight agreements is now \$412,000 of which MWRA and the host community each receive half.
- Managing fee assessment for 8M permits on MWRA fee controlled land. Currently collecting approximately \$35,000 per year.
- Staff acquired property rights to support projects such as the Hultman Interconnections and East Boston Branch Sewer Relief Project during FY08. Staff acquired additional necessary easements for East Boston Branch during FY09 due to routing changes. Also negotiated easement rights and a license with 7-11 in Somerville for Meter 32 improvements.

- Continued to provide technical support, including regulatory liaison, for the ongoing remediation of PCBs at the Wachusett Dam and Cosgrove Intake Facility. The approval for the abatement plan for both facilities was issued by EPA on August 29, 2007. A third plan for PCB abatement of the Dam face and soil was approved by EPA on September 9, 2008. Remediation is complete on the Cosgrove Intake Facility and the top of the Dam and the Dam Face and Soil Remediation contract was awarded January 14, 2009.
- Completed PCB Abatement at the Oakdale Transformer Yard and the Spring Street Pumping Station facility.
- Prepared a Spill Prevention, Countermeasures and Control (SPCC) Plan for the Braintree-Weymouth Replacement Pumping Station.
- Provided training to staff regarding the regulatory requirements for the new Braintree-Weymouth Replacement Pumping Station Emergency Generator. Submitted certification documents to DEP.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various design and construction projects, including North Dorchester Bay CSO Tunnel and Section 53 and 97A Water Main Replacement projects, Blue Hills Covered Storage, Deer Island Wind Turbines, Cottage Farm Inflow Controls, Southern Spine Distribution Mains, University Ave. Water Main, East Boston Branch Sewer, SCADA Upgrades, Norumbega Chlorine Bldg Demolition, Phase VII Valve Replacements, Lynnfield/Saugus Pipeline, Sudbury Aqueduct Short Term Repairs, Cosgrove Transformer Replacement, and Asbestos Abatements at Shaft Somerville and Hingham Pumping Station Isolation Gate.
- Submitted a CO2 Budget Emission Control Application to DEP for the Deer Island Treatment Plant combustion turbines in accordance with the Regional Greenhouse Gas Initiative (RGGI). DEP approved the Plan on January 7, 2009. Made initial purchase of CO2 allowances in accordance with the Emission Control Plan through participation in the second RGGI auction of CO2 allowances.
- Completed air emissions source testing on Deer Island Combustion Turbines and on two of six Biosolids Processing Facility dryer trains. Completed Deer Island Combustion Turbine electronic data reporting system changes to meet new EPA requirements.

FY10 Initiatives

- Procure a successor contract to the MWRA Underground Storage Tank Maintenance and Inspection contract, with the addition of third party inspections in accordance with 527 CMR 9.00.
- Coordinate compliance with 310 CMR 7.71, Reporting of Greenhouse Gas Emissions.

Budget Highlights:

- The FY10 Final Budget of \$858,000 represents an increase of \$166,000 or 24.1% as compared to FY09 actual spending.
- **Wages and Salaries** of \$582,000 includes funding for six positions, an increase of \$53,000 or 9.9% as compared to FY09 actual spending.
- \$270,000 for **Other Services** is an increase of \$113,000 or 72.00% as compared to FY09 actual spending. This increase is due to an increase in the cost of the UST Maintenance contract with the addition to the scope of

work of third party inspections of underground storage tanks as required by new regulations and an end of year accounting adjustment made to this line item in FY09 which transferred some spending from the CEB to the CIP according to new regulations requiring capitalization of certain environmental remediation expenses.



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEMS

Introduction

MWRA's direct expense budget funds the annual expenses of its operating and support divisions. Though the direct expense budget constitutes less than half of MWRA's total budget, it is these expenses which directly support the provision of water and sewer services to MWRA's customers. The direct expense budget includes the annual costs of operating the water and sewer systems, and funds the policy direction, administrative, financial, and legal support services for MWRA's ongoing operations. The direct expense budget also includes the personnel costs for management and oversight of MWRA's extensive capital programs.

There are 11 line items in the division budgets. The line items are:

Wages and Salaries - This line item includes funds for regular pay, shift differential, holiday pay, and standby pay for MWRA staff, as well as funds for interns and temporary staff.

Overtime - This line item includes funds for overtime related to operations, maintenance, emergencies, and training.

Fringe Benefits - This line item includes funds for health and dental insurance, unemployment compensation, Medicare, and overtime meals.

Workers' Compensation - This line item includes funds for compensation payments, medical payments, and settlements of compensation claims.

Chemicals - This line item includes funds for the chemicals used in water and wastewater treatment, such as chlorine, sodium hypochlorite, soda ash, sodium bisulfite, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, diesel fuel, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

Maintenance - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

Training and Meetings - This line item covers the costs of staff training, meetings, and professional seminars.

Professional Services - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

Other Materials - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

Other Services - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – VI present summaries of the MWRA's five division budgets with a detailed description of program budgets and highlights within each division section.

APPENDIX B

BUDGET PROCESS AND TIMETABLE

MWRA operates on a fiscal year that starts July 1. The Current Expense Budget development process begins in September and, as described below, continues through a series of interactive reviews and revisions until June, when the Board of Directors approves the final budget. Throughout the formal budget process, MWRA staff maintain an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

MONTH	ACTIVITY
September – November	Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA’s interactive budgeting system.
December	After the divisions return their budget requests, Rates and Budget Department staff begin the financial management process by consolidating the authority-wide budgets, developing briefing materials for senior management and identifying major budget issues.
January	The Executive Director, supported by senior management, determines proposed funding levels required to meet service priorities. Staff may seek appropriate policy direction from the Board.
February	MWRA transmits the Proposed Current Expense Budget to the Advisory Board for a 60-day review, during which time MWRA staff meet with Advisory Board staff, respond to questions, and provide updated information on plans and prices.
March – May	MWRA hosts public hearings to solicit comments on the proposed budget and community assessments from citizens in its service area. The Advisory Board reviews the proposed budget and transmits comments and recommendations to the MWRA.
June	The Board of Directors holds a hearing on the proposed budget and the Advisory Board’s comments and recommendations. The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

APPENDIX C

MASSACHUSETTS WATER RESOURCES AUTHORITY BUDGET AND ASSESSMENT POLICIES AND PROCEDURES

**(Revised August 2003 to incorporate changes to capital budget section of Management
Policies adopted by the Board of Directors June 11, 2003)**

These policies and procedures govern certain budget, assessment, and rates management practices at the Massachusetts Water Resources Authority (MWRA). Policies and procedures may be amended from time to time, provided that changes in provisions governing reporting to or approvals by the Board of Directors or the Advisory Board must be approved by the Board of Directors. If any sections of these policies and procedures are at variance with requirements of MWRA's financing agreements, the latter shall govern.

ASSESSMENT POLICIES AND PROCEDURES

Basis of MWRA Assessments

MWRA is required by its Enabling Act to establish assessments which, with other revenues, provide sufficient funds each year to pay all current expenses, debt service, and obligations to the Commonwealth; to pay all costs of maintenance, replacement, improvements, extension, and enlargement of the sewer and waterworks systems; to create and maintain reserve funds; and to provide amounts required by financing agreements. These assessments are adopted by MWRA based on the rate revenue requirements set forth in the Current Expense Budget.

Costs Recovered

MWRA capitalizes certain of its asset costs in accordance with its capitalization policy. Capital expenditures are planned as set forth in the Capital Improvement Program and are recovered through assessments in accordance with MWRA financing agreements. The Current Expense Budget provides detailed information on capital and debt costs, additions to reserves, and all operations and maintenance costs to be recovered with current revenue.

Sources of Current Revenue

MWRA recovers most of its current expenses from users of the services it provides. In addition to rate revenue requirements, budgeted current revenue includes anticipated fines, fees, investment income on certain fund balances, and payments for contracted services. MWRA is committed to seeking additional sources of current revenue.

Coverage Requirements

MWRA's financing agreements include coverage requirements which provide that each year revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds. The primary bond coverage requirement is that net revenue must be 120 percent of required debt service fund deposits for bonds outstanding excluding subordinated bonds. The secondary coverage requirement is that net revenue must be 110 percent of required debt service fund deposits for all bonds outstanding, including subordinated bonds. Revenue must be raised annually to meet the primary and secondary bond coverage requirements and may be used for additions to reserves or for payment of obligations to the Commonwealth. Amounts remaining after these uses are used to pay capital costs in order to reduce the need for future borrowing or to reduce current debt service costs. In addition, MWRA has a supplemental bond coverage requirement that amounts contained in its Community Obligation and Revenue Enhancement (CORE) Fund shall equal 10 percent of required debt service fund deposits for bonds outstanding, excluding subordinated bonds. Amounts required to be on deposit in the CORE Fund are recovered through assessments as necessary.

Budget Surpluses

In any year in which current revenue exceeds both current expenses on a budget basis and amounts required to meet bond coverage tests, the amount of over-recovery is deposited first to reserve funds, if any, which are below the level specified in any financing agreements, and second into MWRA's rate stabilization fund or bond redemption fund. Amounts deposited in these funds are used to offset rate requirements in subsequent years. Use of rate stabilization and bond redemption fund amounts is carried out in furtherance of MWRA's budgeting objectives and in accordance with its financing agreements. MWRA consults with the Advisory Board concerning use of amounts in the funds.

Budgeting and Assessment Objectives

MWRA intends to follow prudent budgeting practices, and has the following objectives in developing budgets and community assessments:

1. To minimize total costs, consistent with MWRA's statutory responsibilities to provide effective, environmentally sound wholesale water delivery and wastewater collection and treatment services;
2. To minimize the cost of debt;
3. To avoid single year assessment spikes by prudent management of cost and assessment increases, and
4. To support inter-generational equity by avoiding unfair assessment burdens on either current or future ratepayers.

Allocation of Costs and Revenue to Systems

Most of MWRA's current expenses are directly attributable to either water or sewerage service costs or to investment in either the water or sewerage systems. Expenses which support both systems (indirect system costs) are allocated to the water or sewer system based on generally accepted cost allocation principles. Investment, contract, and other income offsets water and sewerage expenses on either a direct or allocated, indirect basis. The resulting net cost of water and sewerage services is the amount to be recovered through water and sewer assessments.

Allocation of Rate Revenue Requirements to User Assessments

Users of MWRA wholesale water and sewerage services are assessed for those services according to MWRA's water and sewer assessment methodologies. Assessments for water services are computed by MWRA based on metered water use for the immediately preceding calendar year. The total assessment is allocated based on each community's share of water delivered in the immediately preceding calendar year.

Assessments for sewer services are computed on the basis of a combination of metered wastewater flow and loads, and population.

- O&M costs are allocated based on total annual metered wastewater flow, and total annual average strength, septage, and high strength flow loads.
- Capital (or debt service) costs are allocated based on a combination of metered wastewater flow and loads, and population. One-quarter of capital costs are allocated based on maximum month flow, and total annual average strength, septage, and high strength flow loads. The remaining three-quarters of capital costs are allocated based on population. Half of the population allocation is based on census population and half is based on contributing population.

Schedule and Procedure for Adoption of Assessments

During the preparation of the proposed Current Expense Budget, required water and sewer rate revenue is determined, and a preliminary calculation of the allocation of costs to user-specific assessments is made. This information is provided to MWRA customers to assist them in their own fiscal planning. As provided in the Enabling Act, the proposed Current Expense Budget and preliminary assessments undergo statutory review, including public hearings and review by MWRA's Advisory Board. Further refinements of projected expenses and revenues also occur during this period. If review and analysis of the proposed Current Expense Budget results in lower projected expenses or higher projected revenue, some or all of such savings from preliminary estimates of assessments can be included in the adopted budget as additions to the rate stabilization fund and used to reduce rate revenue requirements in subsequent years. Alternatively, some or all of such savings can be used to reduce final assessments to customers below preliminary estimates.

The Current Expense Budget and final water and sewer assessments are adopted in June for the fiscal year beginning in July. The budget adopted in June may differ from the proposed budget as a result of review and further refinement of the proposed budget, although final assessments adopted by MWRA must be sufficient to recover water and sewer rate revenue requirements specified in the adopted budget. Final water and sewer rate requirements and their allocation to users may thus change from preliminary estimates. In addition, any individual community's final assessment may be higher or lower than the preliminary estimate, both because of changes in the factors which affect the allocation of assessments among wholesale customers, and because of differences between MWRA's proposed and final budgets as approved by the Board of Directors.

Review and Dispute Resolution Process

MWRA annually determines preliminary and final assessments for water and sewer services in February and June prior to the beginning of the new fiscal year. These assessments must satisfy the requirement that MWRA fully recover its water and sewer costs by apportioning total costs as assessments among its wholesale water and sewer customers pursuant to its water and sewer rate methodologies and to certain specified data including:

- Calendar year metered water volume and metered wastewater flow obtained from MWRA's water and wastewater metering systems;
- Federal and state community census statistics, and sewer population estimates and other information supplied on Customer Service Update forms and Municipal Discharge Permits; and
- High strength user monitoring data and estimates of community septage volumes as obtained by MWRA's Toxic Reduction and Control Department.

The review and dispute resolution process provides MWRA's wholesale customers with the opportunity to review and comment on the reasonableness of the data used to calculate preliminary water and sewer assessments. During the year, MWRA provides its customers with monthly summaries of water and wastewater flow data distributed, at a minimum, on a bimonthly basis. Because annual metered water and wastewater flows are major components for establishing water and sewer charges for each community, customers are strongly encouraged to review this data closely upon receipt and raise questions with MWRA staff concerning the data. MWRA expects that prompt customer review and comment on meter data will result in the resolution of most water and wastewater metering questions and assure the most consistency between preliminary assessments in February and final assessments announced in June. Community contributions of high strength flow and septage, and population data are made available with the release of preliminary assessments in February.

If after an initial review a community believes that specific data used to calculate assessments should be reevaluated, a community may submit a written objection to the Executive Director with a copy to the Rates Manager or their designee. The objection must be signed by the local

official on record with MWRA as responsible for water or sewer services in the city, town, or district. The objection should state the community's concern with the data used to calculate community assessments, and should also include information and technical data to support the community's objection.

In order for any data adjustments to be incorporated into the allocation of final fiscal year assessments, all objections to data used to calculate preliminary assessments must be received no later than the date of the final public hearing on the proposed budget and preliminary assessments, held pursuant to Section 10 of the MWRA Enabling Act. MWRA staff will review and evaluate the merits of all written objections. Customers are notified in writing of the results of this review prior to the release of final assessments.

Adjustments to preliminary data, if any, are not retroactive beyond the applicable calendar year for proposed assessments. Final fiscal year assessments are calculated incorporating adjustments, if any, resulting from the review and objection process, and final rate revenue requirements as adopted by the Board of Directors.

Written objection(s) may also be submitted following the adoption of final fiscal year assessments, but no later than the end of the fiscal year for which the assessments are applicable. Objections submitted in this manner must also be directed to the Executive Director with a copy to the Rates Manager or their designee.

Following MWRA staff review, adjustments to assessments resulting from the challenge of rate basis data that are submitted following the adoption of final fiscal year assessments will be applied to the subsequent year's assessments. Customers are notified in writing of the results of this review and any assessment adjustments prior to the release of the subsequent year's assessments.

Water and Sewer Assessment Payment Schedule

MWRA adopts a schedule of assessments and a schedule of payments annually. Any adjustments for prior years resulting from the review and objection process are apportioned to each of the scheduled payment amounts. No interest is paid or billed by MWRA for previous year's adjustments.

Beginning in FY2001, assessments are payable to MWRA in ten equal installments due on the first day of August, September, October, November, December, February, March, April, May, and June.

Interest Charge on Delinquent Payments

For payments received after a payment due date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 30 days after the bills are mailed to MWRA's customer communities. Interest charges are added to subsequent regular billings.

Retail Rates

MWRA assessments are for MWRA's provision of wholesale services. Local bodies which receive wholesale services in turn provide retail services to their users at the local level.

MWRA encourages its customers to establish retail rates which:

1. Recover the full cost of providing local water and/or sewerage services, including both direct costs and an allocation or estimate of indirect costs,
2. Charge users of local water and/or sewerage services in a manner which demonstrates to customers that increased use of services results in increased user costs,
3. Comply with MWRA policies directed to conservation of water; elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment, and disposal system; and removal or pretreatment of industrial wastes, and
4. To the extent consistent with #1 and #2, provide assistance to low income users through lifeline rates.

CAPITALIZATION POLICY

It is the policy of MWRA that capitalization of expenditures conform with generally accepted accounting principles. Under such guidelines, MWRA has adopted the provisions of the Financial Accounting Standards Board's Statement No. 71, "Accounting for the Effects of Certain Types of Regulation," which is intended to assure that utility revenues are appropriately matched with incurred costs. Capital expenditures create assets or extend their useful lives. Assets are valued at their cost and provide benefits over an extended period of time. Sources of funds for capital expenditures include grants, proceeds of MWRA borrowing, loans, and current revenue.

Asset value created by MWRA is of two kinds. One is the value of tangible assets either created or increased through MWRA capital investments. Such assets include land, buildings, plant, equipment, and the system infrastructure for water and wastewater. The cost of such fixed asset investment includes not only purchase, rehabilitation, and construction cost, but also ancillary expenses necessary to make productive use of the asset. Ancillary costs can include, but are not limited to, costs for planning studies, professional fees, transportation charges, site preparation expenditures, and legal fees and claims directly attributable to the asset.

The second kind of asset value created by MWRA investment is the value of intangible assets. While such investment does not result in tangible MWRA assets, it does create a benefit to MWRA and its users over several years. Such assets include the cost of MWRA efforts to establish base-line leak detection information for the water systems of MWRA customers. The cost of providing water consumption-limiting devices to households is another example.

Expenditures for tangible assets are included in the Capital Improvement Program and Budget if the expected cost of the individual asset or capital project is \$100,000 or more and if the expected useful life is more than one year. Expenditures for intangible assets are capitalized if the expected cost is \$100,000 or more and if the expected benefit period is three years or more. Annually recurring costs and expenditures for maintenance of assets are not capitalized, even though their cost may exceed \$100,000. Examples of such maintenance expenditures include replacement of vehicles or computers, replacement of inoperable valves or other equipment before the anticipated useful life has been reached, and pipeline or interceptor repairs that do not add significant life to the underlying asset.

RESERVES FUNDED FROM CURRENT REVENUE

Operating Reserve

The operating reserve has been established to provide a source of funds to be used to pay operating expenses of the sewer or water systems should there not be sufficient funds otherwise available for that purpose. Bond agreements specify that the fund level shall not be less than one-sixth of MWRA's annual operating expenses.

Insurance Reserve

The insurance reserve has been established to provide funds to restore, replace, or reconstruct lost or damaged property or facilities of the water or sewer system. It provides funds reserved against risks for which MWRA does not currently maintain insurance. This self-insurance reduces the cost MWRA might otherwise incur for purchased insurance policies. MWRA periodically evaluates the level of its insurance reserve and every three years a consulting engineer or an insurance consultant recommends an appropriate insurance reserve fund requirement. Between FY2005 and FY2007, the budget included an increase of \$1 million to increase the reserve to \$19 million. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside insurance consultant.

Renewal and Replacement Reserve

The renewal and replacement reserve has been established to fund a required capital improvement which is not provided for by moneys otherwise available. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied and its estimated cost and estimated completion date. It must also certify that such expenditure is reasonably required for the continued operation of the systems or for maintenance of revenues and that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. During FY2000, based on the recommendation of its consulting engineer, MWRA reduced the size of the renewal and replacement reserve to \$35 million from \$50 million. The most recent review by the consulting engineer was prepared in December 2005. The recommended reserve remained at \$35 million.

CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

A. Budget Allocations

Budget Contingency Holdbacks

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not to be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

Monthly Allocation of the Annual Current Expense Budget

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

B. Budget Variance Monitoring and Analysis

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare planned to actual revenues and expenses.

Variance Analysis

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepare forecasts of year-end expenditures and revenue. Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA's budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

C. Budget Amendments

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration and Finance Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES

General Guidelines

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

Capital Budget Contingency

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

Capital Budget Monitoring and Reporting

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five-year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

Capital Budget Spending Cap

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may, with Board approval, vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period. The Board will establish the second five-year cap for the FY09-13 period at its June 2008 meeting.

Expenditures in Excess of the Spending Cap

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.

APPENDIX D

MWRA Planning Estimates FY2010 to FY2019										
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
EXPENSES										
Direct Expenses	\$209,613	\$217,612	\$226,581	\$234,878	\$244,094	\$253,967	\$264,151	\$274,717	\$285,706	\$297,312
Indirect Expenses	39,763	47,575	48,548	49,325	52,047	51,785	51,063	52,443	53,848	55,554
Capital Financing (before offsets)	<u>347,226</u>	<u>389,815</u>	<u>395,218</u>	<u>440,170</u>	<u>456,226</u>	<u>478,366</u>	<u>503,197</u>	<u>550,137</u>	<u>508,066</u>	<u>559,022</u>
Sub-Total Expenses	\$596,602	\$655,002	\$670,347	\$724,373	\$752,367	\$784,117	\$818,412	\$877,298	\$847,620	\$911,888
Debt Service Assistance	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)
Bond Redemption Savings	0	(16,983)	(2,700)	(13,171)	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$596,252	\$637,670	\$667,297	\$710,852	\$752,017	\$783,767	\$818,062	\$876,948	\$847,270	\$911,538
REVENUE & INCOME										
Non-Member and Other Revenue	\$12,311	\$12,026	\$12,805	\$13,165	\$13,627	\$13,986	\$14,342	\$14,689	\$14,951	\$15,304
Interest Income	15,197	12,461	12,062	14,670	22,631	23,251	24,458	25,652	25,918	26,966
Rate Stabilization	<u>7,312</u>	<u>15,787</u>	<u>6,755</u>	<u>6,748</u>	<u>2,060</u>	0	0	0	0	0
Total Other Revenue	\$34,821	\$40,273	\$31,622	\$34,584	\$38,318	\$37,507	\$38,799	\$40,341	\$40,869	\$42,270
Total Rate Revenue	\$561,431	\$597,396	\$635,675	\$676,268	\$713,699	\$746,261	\$779,262	\$836,606	\$806,401	\$869,268
Rate Revenue Increase	3.8%	6.4%	6.4%	6.4%	5.5%	4.6%	4.4%	7.4%	-3.6%	7.8%
Estimated Annual Household Charge **										
Charge based on 61,000 gpy (weighted)	\$806	\$845	\$895	\$944	\$1,002	\$1,052	\$1,104	\$1,166	\$1,188	\$1,261
Charge based on 90,000 gpy (weighted)	\$1,189	\$1,246	\$1,321	\$1,392	\$1,478	\$1,552	\$1,629	\$1,721	\$1,753	\$1,860
WASTEWATER										
EXPENSES										
Direct Expenses	\$152,886	\$158,468	\$165,184	\$171,054	\$177,637	\$184,790	\$192,182	\$199,869	\$207,864	\$216,300
Indirect Expenses	12,514	17,837	18,076	18,209	19,468	18,548	17,200	17,956	17,609	18,501
Capital Financing (before offsets)	<u>238,692</u>	<u>275,771</u>	<u>271,421</u>	<u>300,166</u>	<u>300,903</u>	<u>310,534</u>	<u>322,518</u>	<u>363,253</u>	<u>315,482</u>	<u>349,172</u>
Sub-Total Wastewater Expenses	\$404,093	\$452,075	\$454,682	\$489,429	\$498,007	\$513,871	\$531,900	\$581,078	\$540,955	\$583,974
Debt Service Assistance	(326)	(326)	(322)	(323)	(321)	(321)	(320)	(323)	(319)	(314)
Bond Redemption Savings	0	(5,783)	0	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$403,767	\$445,966	\$454,360	\$489,106	\$497,686	\$513,550	\$531,580	\$580,756	\$540,636	\$583,660
REVENUE & INCOME										
Non-Member and Other Revenue	\$4,114	\$4,241	\$4,346	\$4,471	\$4,567	\$4,680	\$4,800	\$4,959	\$5,022	\$5,185
Interest Income	10,517	8,127	7,943	9,669	14,457	14,854	15,300	16,095	15,972	16,587
Rate Stabilization	<u>6,795</u>	<u>9,802</u>	0	0	0	0	0	0	0	0
Total Other Revenue	\$21,426	\$22,170	\$12,288	\$14,140	\$19,024	\$19,534	\$20,100	\$21,054	\$20,994	\$21,772
Wastewater Rate Revenue	\$382,341	\$423,796	\$442,072	\$474,965	\$478,662	\$494,017	\$511,480	\$559,702	\$519,642	\$561,888
Rate Revenue Increase	6.0%	10.8%	4.3%	7.4%	0.8%	3.2%	3.5%	9.4%	-7.2%	8.1%
Estimated Annual Household Sewer Charge **										
Charge based on 61,000 gpy (weighted)	\$480	\$515	\$539	\$571	\$590	\$615	\$643	\$686	\$687	\$729
Charge based on 90,000 gpy (weighted)	\$708	\$760	\$795	\$843	\$871	\$908	\$948	\$1,012	\$1,014	\$1,076
WATER										
EXPENSES										
Direct Expenses	\$56,727	\$59,144	\$61,397	\$63,824	\$66,457	\$69,177	\$71,969	\$74,848	\$77,842	\$81,011
Indirect Expenses	27,249	29,739	30,471	31,116	32,579	33,237	33,863	34,487	36,239	37,053
Capital Financing (before offsets)	<u>108,534</u>	<u>114,044</u>	<u>123,796</u>	<u>140,004</u>	<u>155,323</u>	<u>167,832</u>	<u>180,679</u>	<u>186,884</u>	<u>192,584</u>	<u>209,849</u>
Sub-Total Water Expenses	\$192,510	\$202,927	\$215,665	\$234,944	\$254,360	\$270,246	\$286,512	\$296,219	\$306,665	\$327,914
Debt Service Assistance	(24)	(24)	(28)	(27)	(29)	(29)	(30)	(27)	(31)	(36)
Bond Redemption Savings	0	(11,200)	(2,700)	(13,171)	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$192,486	\$191,703	\$212,936	\$221,746	\$254,331	\$270,217	\$286,482	\$296,192	\$306,634	\$327,877
REVENUE & INCOME										
Non-Member and Other Revenue	\$8,198	\$7,784	\$8,459	\$8,695	\$9,061	\$9,306	\$9,542	\$9,730	\$9,929	\$10,120
Interest Income	4,680	4,333	4,119	5,000	8,173	8,667	9,158	9,557	9,946	10,378
Rate Stabilization	<u>517</u>	<u>5,985</u>	<u>6,755</u>	<u>6,748</u>	<u>2,060</u>	0	0	0	0	0
Total Other Revenue	\$13,395	\$18,103	\$19,334	\$20,443	\$19,294	\$17,973	\$18,700	\$19,287	\$19,875	\$20,498
Water Rate Revenue	\$179,090	\$173,600	\$193,603	\$201,303	\$235,037	\$252,244	\$267,782	\$276,904	\$286,759	\$307,379
Rate Revenue Increase	-0.6%	-3.1%	11.5%	4.0%	16.8%	7.3%	6.2%	3.4%	3.6%	7.2%
Estimated Annual Household Water Charge **										
Charge based on 61,000 gpy (weighted)	\$326	\$330	\$356	\$372	\$411	\$437	\$461	\$481	\$501	\$532
Charge based on 90,000 gpy (weighted)	\$481	\$487	\$526	\$549	\$607	\$644	\$680	\$709	\$739	\$784

**Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey dated December 2008.

APPENDIX E

GLOSSARY OF FINANCIAL AND OPERATING TERMS

8M permit: Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

Accrued Costs: Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

Activated Sludge: The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

Advanced Waste Treatment: Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

Advisory Board: The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

Aerobic: In the presence of oxygen.

Anaerobic: Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of oxygen.

AOC: Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

Ash: The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

Bacteria: One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens or helpful and perform a variety of biological treatment processes.

BDOC: Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

BGD: Billion gallons per day.

Biofilm: Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

Blow-off valves: Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

BOD: Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

Board of Directors: The 11-member governing board of MWRA.

Bond Resolution: A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

Boston Harbor Project: An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

Business Systems Plan (BSP): The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

BWSC: Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

CAC: Citizens' Advisory Committee.

CADD: Computer aided drafting and design.

Capital Improvement Program (CIP): A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

Capital Investment: Development of a facility or other asset that adds to the long-term value of an organization.

CDF: Cosgrove Disinfection Facility

Cathodic Protection: A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

Centrifuge: A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

CFM: Cubic Feet per Minute - A measure of the quantity of a liquid flowing through a pipe.

Chloramination: The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

Chloramine: A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

Chlorination: The process of adding chlorine to drinking water to inactivate pathogens.

Chlorine: A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

Clarifiers: Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

Clean Water Act: A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

Cleaning and Lining: Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

CMMS (Computerized Maintenance Management System): *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long term maintenance strategy to ensure proper maintenance and replacement of plant assets.

Coliform bacteria: A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

Comminutor - A machine or process that pulverizes and reduces solids to minute particles.

Commonwealth Debt Service Assistance (DSA): Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

Commonwealth Reimbursements: Income received from the Commonwealth of Massachusetts as reimbursement for certain chemical and operational costs in accordance with prevailing legislation.

Community Obligation and Revenue Enhancement (CORE) Fund: A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

Composting: The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

Corrosion Control: Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, or other metals. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates.

Coverage Requirement: Requirement of MWRA's bond resolution which provides that each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

CP (Construction Package): Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will package individual construction contracts for particular areas of work.

Cross-Connection: A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

Cryogenic oxygen plant: MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.

Cryptosporidium: A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. Cryptosporidia exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

CSO: Combined Sewer Overflow – An overflow point in a combined sewer system that collects both sewage and storm water runoff for wastewater treatment. During rainstorms, systems can become overloaded, with the excess discharged directly into surface waters from CSO pipes. In the metropolitan Boston area there are approximately 63 CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has six facilities that intercept the flow from CSO pipes and provide wastewater treatment prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

CT: Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

CTG (Combustion Turbine Generator): CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

Current Expense Budget: A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

C-Value: The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6 to 16-inches in diameter, and 130 and 140 for larger diameter mains.

DAF: Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

DBP: Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

D/DBP Stage 1: Disinfectants/Disinfection By-products, Stage 1 Rule – Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

D/DBP Stage 2: Disinfectants/Disinfection By-products Stage 2 Rule-. The rule further regulates the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

Debt Service: In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

DEP: Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

Department: A sub-unit of an MWRA division.

Department of Conservation and Recreation (DCR): Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

De-watering: The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

Diffusers: A system of shafts, rising from the end of MWRA's effluent outfall tunnel to the seabed, that disperses treated wastewater over a large area.

Digesters: Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

Direct Program Expenses: Costs directly associated with providing services or performing activities.

Disinfection, Primary: The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

Disinfection, Residual: The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

Dissolved Oxygen (DO): A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

Division: A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

Division of Watershed Management (DWM): A division of the Metropolitan District Commission (MDC) responsible for watershed management activity. MWRA reimburses the Commonwealth for the cost of DWM's operations.

DLS (Department of Laboratory Services): Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

DMR (Discharge Monitoring Report): Monthly reports submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

E.coli: A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

Effluent: Treated wastewater discharged from a treatment plant.

EIR: Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.

EIS: Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

Enabling Act: Legislation (Chapter 372 of the Acts of 1984) that established MWRA and define its purpose and authority as of January 1, 1985.

ENF: Environmental Notification Form - The first step in the MEPA process.

EOC: Emergency Operations Center

EOEA: Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environment agencies.

EPA: Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

ESWTR: Enhanced Surface Water Treatment Rule - A federal rule is being promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: further tightens the standards for the operation of filtration plants and add requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

Eutrophication: Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

Expenditures: Payments for goods and services received.

Expenses: Costs associated with the operating activities of a period, including expenditures and accrued costs.

Facility Information System (FIS): The management information system at the Deer Island Treatment Plant.

Fecal coliform bacteria: A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

Filtration: A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

Fiscal Year: The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

Flash coat: A light coat of shotcrete used to cover minor blemishes on a concrete surface.

FOD (Field Operations Department): Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

Force Main: A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

FRSA (Fore River Staging Area): The site of the Sludge-Fertilizer Plant.

Giardia: A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

Goal: A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

Graphitization: A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

Grit: Sand-like materials that quickly settle out of wastewater.

Groundwater: A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

HAA: Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

Harbor Electric Energy Company (HEEC): A subsidiary of NStar which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

Head House: A structure containing the control gates to a conduit such as a sewer pipeline.

Headworks: A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

Heavy Metals: Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

HOM (Harbor Outfall Monitoring): A comprehensive program to provide pre-discharge data that helps to predict and then to measure the effect of Deer Island outfall discharge on the marine ecosystem.

ICC: Interim Corrosion Control Facility - A facility located in Marlborough near Walnut Hill, where MWRA adjusts pH and alkalinity to reduce the leaching of lead from home plumbing.

Incentives and Other Charges: A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

Indirect Expenses: Costs not directly associated with providing services or performing activities.

Infiltration/Inflow (I/I): The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

Influent: The flow of water that enters the wastewater treatment process.

Insurance Reserve: A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

Interceptors: The large pipes that convey wastewater from collection systems to treatment plants.

Investment Income: Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

ISO - NE (Independent System Operator of New England): Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island removes itself from the grid. Deer Island participates in the Load Response Program offered by ISO-NE which is a program that pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. Deer Island constantly evaluates the options and participates in the most advantageous program.

Carroll Water Treatment Plant (CWTP): Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant.

Labor Costs: Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

Land Application: The use of wastewater treatment residuals on land for agricultural benefits.

Landfilling: The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

LCR: Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

Leachate: Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

Limnology: The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

LIMS: Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project-specific parameters.

LOX (Liquid Oxygen): Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

Mapping Protocols: Sets of specifications defining the content and format of data to be collected.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Massachusetts Environmental Policy Act (MEPA) Unit: A unit of the Commonwealth's Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

Methane: A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

MGD: Million gallons per day.

MIS: Management Information Systems

Mission: A description of the fundamental purposes and major activities of an operating unit or program.

Mitigation: Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

Molybdenum (Mo): A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism.

NACWA (Nation Association of Clean Water Agencies): NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

NHS (Northern High Service): Project that involves a series of pipeline improvements in the Northern High Service Area.

Nitrification: An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

OCC: Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

OEP (Office of Emergency Preparedness): The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

OMS (Operations Management Systems): OMS correlates PICS data with laboratory analysis to track and analyze plant process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

Operating Reserve: A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of the its annual operating expenses.

Organic Matter: Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

Other User Charges: Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

Outfall: The place where effluent is discharged into receiving waters.

Ozonation: The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. The new Carroll Water Treatment Plant (CWTP) employs the ozonation process to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

Ozone: A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

Pathogens: Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

Payments in Lieu of Taxes (PILOT): Amounts which MWRA pays each fiscal year to cities and towns for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

Penalty Revenue: Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

Performance Measure: An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

Performance Objective: A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

PICS (Process Instrumentation and Control System): PICS provides real-time operations data from systems throughout the plant (including system status, flow, etc.).

Plume: The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

Preliminary Treatment: The process of removing large solid objects, sticks, gravel, and grit from wastewater.

Pretreatment: The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

Primacy: Primary enforcement authority for Federal Safe Drinking Water Act regulations delegated to a state by the Environmental Protection Agency (EPA).

Primary Treatment: A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

Program: An organized group of activities and the resources to carry them out, aimed at achieving one or more related objectives.

Rate Revenue: Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

Rate Stabilization Reserve: A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

RCM (Reliability Centered Maintenance): A maintenance strategy adopted in 2000 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

Relief Sewer: A sewer built to carry flows in excess of the capacity of an existing sewer.

RGGI: Regional Greenhouse Gas Initiative

Remote Headworks: The initial structures and devices of a treatment plant set apart by some distance from the plant site.

Renewal and Replacement Reserve: A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

Residuals: The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

Revenue Bonds: Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

RPS (Renewable Portfolio Standards): State policies which mandate a state to generate a percent of its electricity from renewable resources. The MWRA enrolled the steam turbine generator (STG) in the Massachusetts RPS program. The electricity produced is derived from digester gas burned in the boilers. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a source of supply during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

SAMS: Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

Sanitary Sewers: In a separate system, pipes that carry only domestic wastewater.

SCADA: Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

SCBA: Self-contained breathing apparatus.

Screenings: Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.

Scum: Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

SDWA: Safe Drinking Water Act - A Federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

Secondary Treatment: Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

Sedimentation Tanks: Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

Seeding: The initial filling of sludge into digesters.

Sensitive user: A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

Septic Tanks: Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

Shotcrete: Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

Siphon: A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

Slip Lining: Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

Sludge: Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

Sodium Hypochlorite (NaOCl): A liquid form of chlorine that MWRA uses as the primary chemical in the disinfection and odor processes at the Deer Island Treatment Plant, and as the disinfectant at the Cosgrove and Ware water disinfection facilities. MWRA currently uses sodium hypochlorite at the Carroll Water Treatment Plant (CWTP) and other wastewater Field Operations facilities.

Storm Sewers: Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

Surcharging: Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

Suspended Solids: The particulate matter contained in wastewater.

SWTR: Surface Water Treatment Rule – A Federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

Telemetry: Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

TCR: Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

TOC: Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

Transition: A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

TTHM: Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

TRAC: Toxic Reduction and Control – The department responsible for MWRA's industrial pretreatment program.

TSS (Total Suspended Solids): A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

United States Geological Survey (USGS): The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

Vector Jet Truck: A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

VMM: Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA's vehicles and heavy equipment.

WASM (Weston Aqueduct Supply Mains): Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry water to MWRA's service area. When complete,

they will transmit about one-third of the water to MWRA's service area and the City tunnel will carry the remaining two-thirds.

Wastewater: The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment.

Wastewater Treatment Plant (WTP): A facility containing a series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

Watershed Reimbursement: An amount that MWRA pays to the Department of Conservation and Recreation (DCR) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

WERF (Water Environment Research Foundation): WERF is a not for profit organization that seeks to promote the development and application of sound science to water quality issues. WERF subscribers include municipal and regional water and wastewater utilities, industrial corporations, and environmental engineering firms that share a commitment to cost-effective water quality solutions.

Wholesale Water and Sewer Services: Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

WOCC: Western Operations Control Center.

APPENDIX F
Final FY10 Current Expense Budget - Capital Financing Detail (as of 6/30/09)

	Outstanding as of 6/30/09	Total	Sewer	Water
SRF ¹				
93A,93D,95A,98C	\$16,300,000	32,844	32,844	-
1999E	\$15,997,384	938,655	382,187	556,468
1999F	\$318,875,000	15,644,060	15,644,060	-
2000E	\$70,838,190	3,361,374	2,789,895	571,479
2001C & D	\$10,265,525	698,729	368,243	330,486
2002H	\$104,870,000	4,637,340	3,105,464	1,531,877
2002I	\$2,288,374	103,443	101,966	1,478
2003A	\$1,163,275	71,557	-	71,557
2003B	\$3,323,713	224,315	-	224,315
2003C	\$45,711,000	2,321,102	1,357,260	963,843
2004C	\$11,057,349	631,945	539,291	92,653
2004D	\$68,294,022	4,486,140	3,840,240	645,899
2005C	\$7,548,409	486,879	417,451	69,429
2005D	\$74,347,448	4,207,534	3,398,449	809,085
2005E	\$423,083	30,440	24,961	5,479
2006 C	\$8,164,842	487,279	487,279	-
2006 D	\$89,710,868	5,372,369	3,749,999	1,622,370
2006E	\$497,198	33,164	22,883	10,281
2007C	\$7,088,875	568,638	367,889	200,750
2007D	\$22,973,223	1,153,794	1,153,794	-
2007 E	\$79,319,505	4,573,539	3,305,350	1,268,189
2008 G	\$7,061,241	492,578	409,901	82,677
2009 C	\$122,106,480	7,673,634	5,776,109	1,897,525
2010 SRF		2,321,875	1,545,042	776,833
Total SRF Debt	\$1,088,225,003	\$60,553,230	\$48,820,557	\$11,732,673
MWRA Senior Debt				
1993C	\$48,095,000	5,985,725	5,237,509	748,216
1997D	\$14,210,000	852,600	801,444	51,156
1998A	\$52,525,000	2,494,938	1,663,300	831,638
1998B	\$24,675,000	6,267,125	6,016,440	250,685
2002B	\$74,415,000	3,809,031	380,903	3,428,128
2002J	\$547,835,000	28,574,613	21,717,151	6,857,461
2003D	\$113,340,000	5,510,288	1,836,579	3,673,709
2004A	\$104,870,000	5,249,419	393,706	4,855,712
2004B	\$49,390,000	2,469,500	2,160,813	308,688
2005A	\$400,270,000	28,761,863	9,347,605	19,414,257
2005B	\$80,290,000	4,014,500	1,338,033	2,676,467
2006A	\$200,000,000	9,376,800	-	9,376,800
2006B	\$264,945,000	12,755,300	9,566,475	3,188,825
2007A	\$200,000,000	9,033,188	1,535,642	7,497,546
2007B	\$647,950,000	34,017,375	28,574,595	5,442,780
2009A	\$98,000,000	4,802,150	3,601,613	1,200,538
2009B	\$285,200,000	13,835,194	9,961,340	3,873,854
FY10 New Money		1,675,000	837,500	837,500
Total Senior Debt	\$3,206,010,000	\$179,484,606	\$104,970,648	\$74,513,959

APPENDIX F
Final FY10 Current Expense Budget - Capital Financing Detail (as of 6/30/09)

	Outstanding as of 6/30/09	Total	Sewer	Water
Subordinate Debt				
1999B	\$72,600,000	2,541,000	1,524,600	1,016,400
2002C	\$70,575,000	2,470,125	823,293	1,646,832
2002D	\$66,450,000	2,687,819	2,687,819	-
2008A	\$338,005,000	14,963,746	13,168,096	1,795,650
2008B	\$124,595,000	4,313,823	905,903	3,407,920
2008C	\$194,900,000	13,030,153	12,508,947	521,206
2008D	\$73,140,000	34,997,303	34,997,303	-
2008E	\$224,770,000	12,375,691	11,385,636	990,055
2008F	\$191,705,000	6,491,669	584,250	5,907,419
Total Subordinate Debt	\$ 1,356,740,000	\$ 93,871,329	\$ 78,585,847	\$ 15,285,482
Total SRF & MWRA Debt Service²	\$ 5,650,975,003	\$ 333,909,165	\$ 232,377,051	\$ 101,532,114
Water Pipeline Commercial Paper	\$ 194,000,000	\$ 4,500,000	\$ -	4,500,000
MassDevelopment CREBs Loan	\$ 268,667			
Current Revenue/Capital ³		5,600,000	4,200,000	1,400,000
Capital Lease		3,217,060	2,115,275	1,101,785
Sub-Total	\$ 194,268,667	\$ 13,317,060	\$ 6,315,275	\$ 7,001,785
Total Capital Financing (before Debt Service Offsets)	\$ 5,845,243,670	\$ 347,226,225	\$ 238,692,326	\$ 108,533,899
Debt Service Offsets				
Variable Rate Savings		\$ -	\$ -	\$ -
Debt Service Assistance		(350,000)	(326,019)	(23,981)
Total Capital Financing	\$ 5,845,243,670	\$ 346,876,225	\$ 238,366,307	\$ 108,509,918

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects. The amount is partly determined by MWRA's bond covenant requirements.